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EDUCATION

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PHYSICAL EDUCATION NUMBER

Changing Concepts in Physical Education
Maturity Indicators and the Development of Strength and Skill
Physical Education in Education
Better Teaching is Needed
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A MAGAZINE DEVOTED *to the* SCIENCE, ART, PHILOSOPHY *and* LITERATURE *of* EDUCATION

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JAMES A. WYLIE, *Editor*

Professor of Education, Boston University

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EDUCATION

VOL. 75 OCTOBER 1954 NO. 2

Changing Concepts *in* Physical Education

By JAMES A. WYLIE

Professor of Education, Boston University

TRADITIONALLY our civilization has entertained some very mixed concepts regarding the purposes, uses and values of physical education in the growth and development of boys and girls.

Early history indicates that the chief function of physical activities was to develop superior bodies. As time passed and nationalism developed the superior body was used, as evidenced by early Persian practices, to subjugate other peoples to the service of the conquerors. The Greeks and Athenians, in turn, later developed a concept that no citizen had the right to be an amateur in the matter of physical training.

During the period of early Christianity the doctrine that "worldly" and material things were not of God grew in importance and lead to the belief that physical education should not be encouraged or tolerated. The Age of Chivalry, in the years that followed, brought once more the concept of the development of a strong body for strictly utilitarian purposes. This physical education was almost completely divorced from intellectual education which was reserved only for the scholar and clergyman. Unfortunately there are today many whose concept of physical education dates from the practices of this period.

With the advent of the Renaissance the Humanist Educators once more gave physical education new importance by giving it the broad, wide interpretation it deserved. This renewed concept gave physical education a firm foundation from which to prove its importance in the educational program.

Despite the lessons, indicated and recorded by history physical education can still be seen in many places in two widely divergent practices. One, undesirable, may be seen in programs that express unwise selection of activities, over-emphasis upon winning, excessive competition, "spectatoritis," athletic scandals, compromised academic standards, indifferent teaching methods, poor evaluation procedures and an apparent unconcern about the need for desirable aims and objectives so essential to good educational progress.

These practices though commonly given much public attention are not commonplace. They do however, to a great extent, express the concept that

many individuals have of the field of physical education. Well trained leaders would like to feel that these practices are the "growing pains" of the profession and that they will be "cancelled out" as teachers and the public are educated as to what is good for children.

If one will look, the antithesis of this type of program may be seen in every section of the country. Ernest, sincere teachers are striving to meet the needs of the whole child through presentation of well balanced programs of activities that serve the same general objectives so usually sought for by leading educators everywhere. Educational objectives for this second type of physical educational program include serious and well thought out efforts to achieve, among others, the following objectives:

1. *Physical growth;* Implies education to develop skills, abilities, organic development, strength, vigor, vitality, health and neuro-muscular coordination.

2. *Social growth:* Includes the training in how to meet and live with peers as well as others, recognition of the effect of competition on social living, sensitivity to ridicule, failure and loss of prestige, development of good attitudes toward such problems as race, religion, etc., control of conflict, development of sympathy, sense of values, cooperation and how to act with and for others.

3. *Emotional growth:* Guidance to be offered in the meeting of fears, resentments, joys, sorrows, annoyances, etc., Help in developing aspirations, affection, security, control of rejection, over-dependence and aid in promoting a spiritual life.

4. *Recreational growth:* Education to learn the wise use of leisure, joy in participation, satisfaction from learning new interests, and the development of skills that will serve as the basis for a continuing self-education.

5. *Intellectual growth:* The development of specific knowledges pertaining to helpful living, the abilities and limitations of the human body, fundamental rules and strategy of games and sports as well as an appreciation and understanding of well integrated education.

If parents and teachers concerned with the growth, development and education of children looked for programs that strive to achieve these objectives they would find programs of physical education compatable with those of any other subject matter area. In some respects they might even be better suited, in many ways, to the needs of these children because more interesting, vital and valuable experiences in living can be made a part of the daily experiences.

The articles that follow are designed to help teachers of all levels to better understand the true meaning and purpose of physical education and to help many of them to develop more thorough and comprehensive teaching-learning situations for the children they serve.

Maturity Indicators *and the* Development *of* Strength *and* Skill

By LAWRENCE RARICK

Professor of Physical Education, University of Wisconsin

MATURATION is a term which has many general and specific meanings. As a result there is no universal agreement as to the exact rôle which maturation plays in learning and in the development of specific traits and abilities. It is generally recognized, however, that the maturation of different bodily structures and functions do not proceed at the same rate. Hence, it is difficult to make a valid estimate of the level of maturity of a child in terms of a single maturity indicator.

Maturation is an on-going process which is an integral part of the development of the organism. It involves a series of transformations of structure and function terminating in complete or mature development. Maturation implies a state of readiness to respond which in turn is limited by the level of maturity attained. It is also recognized that maturation does not operate independently of the environment, for many traits and abilities emerge only under conditions of proper timing of environmental stimuli and maturational factors. If the environmental setting is not adequate at the time the traits are ready to emerge, these traits will either not appear or will not develop fully. Recognition of this has resulted in the formulation of the concept *"teachable moment"* which implies there is a time in the developmental sequence when the learning of a particular task is accomplished most easily.(4)

Some confusion exists concerning the emphasis which should be given to maturation as a means of interpreting the educational needs of children. This is due to the lack of adequate methods of appraising maturational status. Specialists have been working on this problem with only limited success. Efforts have been made to describe quantitatively the maturity levels of children in specific traits and abilities and to combine such values into a total maturity estimate.(10) While general maturity indicators of this type appear to be helpful in predicting the child's possibilities for adjustment in the classroom, such indicators are of limited value in other situations.

In the field of physical education little information is available concerning the influence which maturation has upon the development of strength and motor skills during childhood. While the basic problem of appraising maturational status remains unsolved, there are certain general maturity indicators which may help the physical educator differentiate the maturity levels of children. It should be pointed out that these maturity indicators are of particular significance in interpreting the child's capacities in activities requiring strength and power.

Chronological age and grade classifications will remain for some time the means of classifying children for physical education instruction. Unfortun-

ately there is litlle information available relative to the chronological age or the grade levels at which certain of the basic skills can be most economically learned. Although chronological age is a crude estimate of maturity, it is a worthwhile point of departure in studying the influence of maturation on the learning of basic motor skills.

Maturation and Growth in Strength: Growth in body size is normally accompanied by an increase in strength. The increase in strength, however, is not proportional to the increase in physical dimensions. This is most evident as the boy and girl reach sexual maturity for at this time the rate of growth in strength for both sexes greatly exceeds the rate of change in physical size.(3,7)

Less is known concerning the development of strength during childhood. X-ray studies on the differential growth of muscle and fat during childhood have been the basis for drawing inferences concerning the influence of maturation upon growth in strength. For example, Weinbach(16) in X-ray studies of the growth of muscle and fat has shown that with young children the rate of growth of muscle tissue is accelerating whereas fat follows the decelerating law of growth. The acceleration in growth of muscle tissue becomes quite apparent during the fifth year of life for at this time approximately 75 per cent of the increase in body weight is muscle tissue.(11) The quality of the muscle tissue has been judged by the use of X-ray and according to Krogman(9) muscles which give light shadows fatigue easily and produce symptoms of irritability and restlessness in children.

Efforts have been made to study differential tissue growth in relation to the physiological maturity of children. The work of Reynolds(12) indicates rather clearly that the girl who reaches sexual maturity at an early age shows a spurt in growth of muscle mass of the leg at about nine-and-one-half years of age. With the late maturing girl the spurt in growth of muscle tissue occurs approximately two-and-one-half years later. The pattern of growth of muscle for early and late maturing boys is similar to that for girls but with the boys the spurt in growth appears later.

The influence of constitutional make-up should not be overlooked as a factor influencing the development of strength in children. There is a substantial body of evidence which indicates that with individuals of mesomorphic build a program of exercises results in greater increase of muscle mass than occurs with those of linear frame.(14) Jones(7) has shown that during early adolescence static strength, while associated with body size, is more closely related to components of body build. His data show that for boys of the same body weight the ones with a mesomorphic physique have the greatest strength.

The influence of physique upon the development of strength of younger boys is not so clear, but there is evidence which suggests that the eight year old of mesomorphic physique is nearer to sexual maturity and stronger than the eight year old of ectomorphic build. In establishing expectation levels for children in physical activtities requiring reserves of strength and power, the teacher should give due consideration to the constitutional make up of children.

With increasing maturity, changes also occur in the quality and strength of muscle. At birth the muscles contain about 72 per cent water and 28

per cent solid, whereas at puberty the water content is 66 per cent and the solid 34 per cent.(5) Cullumbine(1) has shown, however, that as early as twelve years of age growth in strength is more rapid than the increase in muscle mass.

A detailed study by Kintis(8) of the strength of eight muscle groups indicates that there is no typical growth curve for particular muscles for boys in the age range seven to twelve years. While the growth in strength of the muscle groups of the upper extremities tends to follow the physical growth curve, growth in strength of the leg extensors shows a sharp increase at about eleven years of age. This is an interesting phenomenon and can perhaps be interpreted in the light of Reynold's findings in which he has shown that there is an accelerated growth in muscle mass of the lower extremities at this age. With the total strength of the eight muscle groups reduced to an index of strength per pound of body weight, Kintis' data shows rather clearly that between seven and twelve years of age boys tend to increase in strength more rapidly than they increase in size. This increase in "total strength", however, is in part a reflection of accelerated growth in leg strength.

While physical activity is highly important for the development of muscular strength during childhood, it should not be forgotten that inherent growth factors also play a prominent role. The development of strength is an intimate part of the total growth phenomenon and is therefore influenced by such factors as the level of maturity and body build of the child.

Maturation and Physical Skill: Experience has been the chief guide for the selection and grade placement of activities in physical education curricula. It is only within recent years that experimental work has been done which gives insight into the approximate maturity level at which certain of the basic skills should be given emphasis. Most of the experimental work which has been reported has utilized the skills of throwing and jumping chiefly because these two skills can be relatively easily studied under controlled conditions.

In a study of the development of throwing behavior in children, Wild(17) concludes that children move through several well defined stages of throwing before the mature pattern of throwing is established. Her findings indicate that boys achieve the mature pattern of throwing by the time they are six-and-one-half years old. With girls, immature throwing patterns are frequently observed at both the elementary and high school levels. The marked difference between the sexes in throwing behavior is a reflection of cultural influences which are reflected in this activity at an early age.

In throwing a larger ball requiring the use of two hands, Jones(6) reports that of the six basic throwing skills included for study, all six throwing patterns are used by some of the children by the age of seven-and-one-half years. The data from both of these studies strongly suggest that children in the first and second grades are ready to receive formal instruction in throwing both large and small balls.

Experimental data on the effects of special training in ball throwing is limited. Working with children three to seven years of age Dusenburry's(2) findings show that six instructional periods extending over a three week interval accomplish little in the way of improving performance in the throw

for distance prior to five years of age. Between five and six years of age both boys and girls make significant gains.

In a study of the effects of eight weeks of special instruction in throwing on second and fifth grade average and poor performing boys and girls Taylor(15) reports that at both grade levels the average and poor performers signficantly improve their performances over that of control groups. The older boys and girls who receive special instruction, however, show greater performance gains than the younger children. This would suggest that while second grade children profit from throwing instruction the added maturity of the fifth graders may be responsible for their relatively larger gains. It is interesting to note that after training, the group of poor performers achieve the average level of proficiency of the children at their particular grade level. The effects of maturation and related physical activity is seen in the control group of average performing boys whose scores show considerable increase over the eight week period despite no special instruction.

The ability to project the body upward and outward in various jumping activities is acquired by children prior to the time they enter school. However, the jumping behavior of most children is immature in the lower grades and needs to be developed if children are to function effectively in the many activities requiring these skills.

Studies concerned with the effect of special training on the jumping behavior of school age children have been confined to the standing broad jump chiefly because the experimental setting of the event can be reasonably well controlled. The work of Dusenburry(2) with three to six year old children indicates that special training accomplishes little in the way of improving broad jumping performances with children of this age level. The hypothesis is proposed that jumping activities receive considerable general practice at these ages and therefore may be more intimately associated with maturation than is throwing.

Apparently children are mature enough at the first grade level to profit from instruction in the standing broad jump, for a study by Sparks(13) shows that one period of instruction each week over a period of thirteen weeks results in performances significantly superior to a control group. Similar findings are reported by Taylor(15) in a study of the effects of an eight week period of instruction in the standing broad jump on poor and average performing second and fifth grade boys and girls. The results reported by Taylor show that, while all experimental groups show significantly greater grains than control groups, the children in the older groups gain relatively more than the younger children. It is interesting to note that after the eight weeks of specialized instruction the poor performing second grade groups remain far below the average for their age level. On the other hand, the poor performing fifth grade boys and girls, at the close of the eight weeks instructional period, closely approximate the average for children of their age.

Research on the maturation of strength and gross motor skills during middle childhood is still in its infancy. While research on the development of strength during adolescence has received much attention, only recently have data been accumulated on younger children which offer a basis for interpreting developmental differences among child-

dren in this trait. Both body build and physiological maturity are important factors which appear to be intimately associated with the development of strength during childhood and should be considered in orienting the physical education program to the needs of children.

In the acquisition of motor skills the research evidence now available indicates that children in the lower elementary grades are mature enough to receive more instruction and drill in both throwing and jumping skills than is given in most schools. If the developmental needs of children in the realm of motor skills are to be met, adequate time and competent instruction must be provided at the time these skills are maturing.

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Physical Education *in* Education

By GEORGE K. MAKECHNIE, *Dean*
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ENCOURAGING evidence suggests an increasing recogntion by educators of the relationship of the various disciplines one to another. Last summer the annual conference of the National Association of Organizers and Lecturers in Physical Education (England), held at Oxford University, took as its conference theme, "Physical Education in Education." The Second International Congress in Physical Education for Girls and Women, held in Paris in July, 1953, reached its highest levels of discussion when it was considering such a topic as "Physical Education and the Arts." In March, 1954, the annual Founders' Day Institute at Boston University featured an interdisciplinary approach to the topic, "Frontiers in Human Relations." Recent educational literature abounds in illustrations of this striving for sound inter-relationships between various educational endeavors.

This is significant progress. For we have in education no greater need than that of relating each of the major divisions of education to a unified whole. Too long have we dwelt in our cubicles of departmental isolation. We have become over-specialized. As one wag has put it, we have "yearly learned more and more about less and less."

Happily, the more recent trend suggests that we are recognizing the need for an emphasis relating our various specialities to the total educational process. It suggests the need for team work. Most important of all, it suggests that we are coming to see that the learner—child, youth, or adult—and his total needs should be the focal point of educational emphasis.

This article seeks to consider physical education in relation to education. Its thesis rests on the now generally accepted concept of the unity of man. This concept "rules out the mistaken idea that man acquires understanding only by using the mind, and that he develops his body merely by exercising the muscles, despite the fact that the brain is primarily concerned with thinking and the muscles with movement. The student of elementary psychology knows that organs and systems have unique functions, but he also knows the more important fact that the successful functioning of one organ or system depends upon the corresponding behavior of the others. Thus, a person thinks or runs with his entire body."[1] Physical education is concerned with education through the physical. Physical education recognizes its unique function. It seeks to promote the optimum growth of the individual by providing a rich variety of participatory experiences in large muscle activities. But it recognizes also that its service is greatly enhanced when related to the sciences, the humanities, and all other educational approaches. Furthermore, a new dimension is added to its service

1 Brownell, Clifford Lee and Hagman, E. Patricia. *Physical Education—Foundations and Principles.* McGraw-Hill Book Co., 1951.

when its work in the community is allied to such other fields as social work and religion.

It is sometimes helpful to approach a contemporary educational discussion by reminding ourselves of certain historical backgrounds. Modern physical education has significant antecedents. Recognizing the many patterns dating back to Greece and to the Ancient World, for our immediate purposes let us consider more recent backgrounds in America.

Approximately three-quarters of a century ago, pioneering educational leaders in America such as William Anderson, Luther Gulick, R. Tait Mackenzie, and Dudley Allen Sargent, with pioneering insight recognized that developing technological changes in American society would have an increasingly profound effect upon the health status of people. Modern technological advances, these leaders foresaw, would impose artificial restrictions upon natural physical and emotional outlets. They envisioned that a physical education program, properly conceived, could provide substitute activities essential to bodily well-being which, before the advent of the technological age, were provided in man's day-to-day work. Furthermore, they were aware that the harnessing of machines would constantly reduce the length of the work-day and the work-week. How sure was their vision! The former twelve- to sixteen-hour work day and the six-day work-week have gradually given way until now the eight-hour day has become standard and the five-day work week commonplace for most manual workers. It was in part to meet this basic societal need that physical education, as a phase of American education, had its beginnings.

A new challenge now confronts us. The tensions and strains imposed by the revolutionary nature of our contemporary society have exacted a devastating toll upon our people. Over fifty per cent of our hospital beds (and there are not enough to meet the need) are occupied by victims of nervous disorders. There is a strain of pathos in the otherwise humerous quip that describes ours as an "ulcer culture." Physical educators are increasingly recognizing the challenge to them inherent in the birth of an atomic era.

However, one of the too-little understood aspects of the present challenge is its compound nature. The eight-hour day and the five-day work week prevail in the main only for manual workers. Business leaders and professional workers do not have, nor for the most part do they want, the abbreviated work-day. Doctors, lawyers, teachers, preachers, and business executives are so absorbed in their professional and business activities that an eight-hour day is insufficient for the accomplishment of their objectives. It is among the professional workers and business leaders that we find the greatest prevalence of nervous disorders. Accordingly, the challenge to physical education in contemporary society is two-fold. On the one hand there is the task, in cooperation with associates in other fields, to help workers possessed of new-found leisure wholesomely to use that leisure, and on the other hand to search for ever improved ways and means of helping business executives and professional workers to develop habits and skills calculated to serve as buffers against the stresses and strains of our day. Physical education thus conceived is integrally related to contemporary culture.

If the physical education program is

to become an increasingly important phase of general education, then the quality and comprehensive nature of the preparation of the worker in the field becomes of paramount importance. The exacting demands made upon the physical educator presuppose requisite preparation in four basic areas:

1. Rich backgrounds in general academic work are necessary to contribute to the physical educator's own personal development and to enable him to share cultural experiences with other educated people.

2. Adequate scientific preparation particularly in the biological sciences and in the fields of psychology and sociology is essential as an immediate foundation for the profession.

3. Study in the science of education is basic orientation to the field of education.

4. The development of a wide variety of professional skills is the instrumentality through which the unique service of the physical educator is rendered.

The physical education curriculum pattern is guided by these four essential elements. Its scientific phase is strong in biology, anatomy, and physiology. The skills which it includes are comprehensive in character and designed adequately to equip the physical educator for the varied demands of the profession.

The skills of physical education have educational value *per se*. The need for wholesome exercise in growth and development is universally recognized. The normal child instinctively engages in running, jumping, climbing, and playing. In youth these desires develop into organized games and competition, feats of endurance, and skills, and in expressions of dance and rhythms. Beyond the acquisition of the skills, valuable though they are in themselves, concomitant values of lasting worth emerge. How often negative attitudes and unwholesome personality traits relate to lack of competence in physical skills. The cynical phrase, "I don't like to do something," is but a compensating confession that "I do not know how to do that something." In helping a boy or girl to perfect a skill in swimming, hockey, basketball, tennis, badminton, or name what you will, the physical educator may add a fibre to the character of that boy or girl. In developing the individual's competence, the physical educator contributes to that boy or girl's sense of confidence. Confidence develops self-reliance. Self-reliance is a strong ingredient of character.

Art for its own sake is sufficient justification for including dance in the program of physical education. Beauty of artistic expression "is its own excuse for being." Happily, however, there are other values which make contributions to the development of poised personality that are natural concomitants of dance. As a perfected athletic skill makes for potential character development, so, also, does the rhythmic movement of dance develop a disciplined freedom. The increased recognition on the part of medical authorities of the values of dance therapy for mentally sick and tired people serves to underscore the inherent value of dance as a preserver of mental and emotional well-being for all individuals. Dance as expressed through its various forms—social, tap, folk, modern—relates intimately to worthy educational objectives. It provides a means of self-fulfillment, an artistic medium for self-expression, and an instrument of intercultural communication. Through social and square

dance, poise and a sense of ease in social relations may be developed. Through modern dance, a high level of self-expression through creative movement may be achieved. Through folk dance, a grass-roots type of understanding of different ethnic and nationality groups may be realized. The dance phase of physical education affords numerous opportunities for rich and meaningful correlations with other school subjects—notably art, music, and the social studies.

The nature of the work of physical education brings the physical educator into a more informal and freer relationship with students than is enjoyed by most other teachers. Thus a guidance function becomes an inherent aspect of physical education. A considerable responsibility is herein implied. If positive and beneficial effects are to result from this natural guidance situation, it is obvious that the physical educator must have a comprehensive educational philosophy and an insight into the problems of youth. With sufficient background and wisdom, and the acquisition of the required competence, a substantial contribution may be made by the physical educator to the guidance program. In cooperation with the technically-trained counselor through the guidance program, the physical educator has opportunity effectively to demonstrate the concept of inter-disciplinary approach to educational problems.

Physical educators are motivated by a high sense of useful purpose as they strive ever more completely to attune their work to the needs of society, and to correlate their efforts with those of other educators in sister disciplines.

BOOK REVIEWS

Atlas of Men. By William H. Sheldon. New York: Harper & Brothers, 1954, $10.00.

After twenty-three years of somatotype research and three basic tests* Dr. Sheldon and his associates have made available what might be termed the working tools of Constitutional Psychology for everyone—physicians, geneticists, anthropologists, and educators.

Research minded educators have for years been especially cooperative in the study of human physique, and many of the 46,000 men photographed and measured by Sheldon have been obtained by these educators.

Much of the somatotype research and study of constitutional behavior already pursued in education — chiefly by physicians, physical educators and psychologists — has been limited to some extent by the absence of a more specific frame of reference to work from. Now, Sheldon has in print an excellent glossy paper and fully documented, specific examples of the diversity of somatotypes.

The *Atlas* makes available a standard file of somatotype variations, together with the criteria actually employed in somatotyping so that correlative inquiry can be carried out. Somatotype criteria is set forth so that they can be understood and used. Here, a methological approach is set forth so that the investigator has something definite — a standardized practical tool for research.

The *Atlas of Men* consists of photographs representing front, side and rear views of 1,175 men. Here, readily available to research workers, are the examples of 88 known somatotypes with age — height — weight tables and curves for each. Here is a guide and handbook on somatotyping for all concerned with problems of human structure and behavior.

Since human behavior is the chief concern of the educator, and since man's basic structure and behavior seems highly correlated — this *Atlas of Men* may well be one of the most significant contributions to the classification and understanding of human beings which science has thus far achieved.—Carl E. Willgoose.

* The Varieties of Human Physique
The Varieties of Temperament
The Varieties of Delinquent Youth

Better Teaching *is* Needed

By C. O. JACKSON
University of Illinois

IN a recent issue of the Phi Delta Kappan, there was an article called "This is the Age of Sloppiness".[1] The author, Dr. Leland Miles presented a series of graphic examples to emphasize the fact that there has been a real decline in standards of workmanship, that there is little pride in craftsmanship, or in doing a job well. While his article was developed around a discussion of grammar and writing, almost everything he said can be applied with equal force to other areas. Physical education is surely one of these.

A few examples might serve to illustrate what is going on in this "age of sloppiness" and here are some you may recognize: The coach who spends too little time in preparing for each practice, and then blames the officials, the players, or fate for accidents, low scores, or poor showing of his team; the instructor who "throws out a ball" and lets the boys play because he has "too many other things to do"; the instructor who always knows best what his pupils need, and sees to it that they get it, regardless; the instructor who justifies her poor work in the field of dance or aquatics by saying "After all, I'm primarily interested in sports!"; or the teacher of either sex who uses the health or safety education period as a catchall, to rehash things already threadbare with repetition, or who lets the class discuss anything, as long as it is in the field of sport; all these folks and many others who might be mentioned are star actors in the same drama. They have parts in the "age of sloppiness."

These teachers apparently lack all professional attitudes and appear to have forgotten most everything they learned in their formal teacher training. They have grown stale and lazy, and yet can often rationalize and justify their actions. Perhaps we should take a good long look at our own professional contributions in our daily activities and see how far from the theoretical goals and aims we have strayed.

Are we doing the job we spent years in preparing for, and doing it to the best of our abilitiy? Are we making contributions to the well-being, the lives of boys and girls in our classes, or on our teams? Are we continually striving to improve our methods, our techniques, our offerings by in-service training, by wide reading, by attendance at conventions and workshops, by memberships in professional organizations, by sampling of student opinion in our classes? Or are we content to go on day after day, plying a trade, "punching a clock", putting in time until we finally get a pension and are retired?

Perhaps many of the lazy folk are like the busy executive pictured as he scolds a subordinate for questioning some plan that is being followed and then makes the cryptic statement "There's no reason for it . . . it's just our policy, that's all!" So much of our activity, even on the professional level seems to have little point, to lack purpose, to have "no reason for it." What

1 Leland Miles. This is the Age of Sloppiness. Phi Delta Kappan. 35:4 (January 1954) p. 163-68.

we do has just become a habit, a routine, and as individuals we often go on day after day, week after week, and sometimes for years without any spark, without any variation, and without any particular interest in what we are doing.

Such an instructor, and we use the term loosely, surely does not enjoy his work. Even more important, what sort of class learning is going on? What kind of student enthusiasm for the various activities in physical education is being kindled? And if any feelings of appreciation are being developed on the part of the pupils isn't it possible they will be negative or even antagonistic toward both the field and the instructor?

It is likely, of course, that most of the individuals who read this magazine are professional in their thoughts and in their actions. And they, in turn, are very likely to say to themselves "If only Joe Blow would read this, and then would change his present practices!" But wait just a minute before you think that. Isn't it all part of the pattern? Isn't it another example of the universal conceit of mankind? Are you *sure* it's only the other fellow and not you? Everything said and especially things implied in this article should be studied and evaluated on a personal basis regardless of how good we think we are.

If we don't make some of the mistakes pictured, undoubtedly there are other areas where improvement can be made, traits and characteristics that can be modified and smoothed out, and instances where greater attention may be paid to better teaching, to individual needs and differences of pupils. Perhaps a brief listing of what we might do would have value for everyone in calling attention to both our strong and weak points.

First of all, appearance is an important, initial factor. If we expect our students to change into clean clothing for class, it surely is just as essential for the instructor to set the example. The author remembers an individual who told him that he had the "laundry problem licked" by wearing blue trousers with a sewed-in crease, and a blue T-shirt in all his classes. The man boasted of the fact that his uniform hadn't been cleaned in three years . . . "it didn't need it!"

Suitable clothing, clean and well-pressed for the activity at hand is important. Just as much attention should be paid to these details as dressing for church, or for that "big date". You are "on parade" and a good impression is important.

Good grooming is closely related to the matter of dress. The male instructor should be clean shaven, and have his hair neatly cut and combed. The female instructor should be just as well-groomed. Some students form a life-long opinion of you from the first impression, and since appearance which is a combination of how you look and how you dress, is one of the big factors, make it a good one.

Understanding your students, is, of course, the most important and perhaps the most neglected factor in good teaching. It is not a task to be completed in a few minutes or in any casual manner. The job is never finished, and lasts at least as long as the school life of each member of your classes. You learn about your students by studying their records, by talking with other teachers, by having informal conferences, by "locker-room" and "playfield" chats, by meeting their parents, and especially by observing them in class. If you take part in the social activity of

the school as you should, you will have other opportunities to learn something about "Jack" and "Jill" under quite different circumstances.

With the emphasis on democracy, especially in learning, it is important that we understand what we mean when we use such a term. It means guiding students in meaningful experiences, in a cooperative, rather than regimented effort. It means helping them as individuals evaluate their own strengths and weaknesses in physical education, and together planning the best way to attack or overcome them. It does *not* mean turning the class over to the students and letting them as individuals or as a group do whatever they wish or choose to do. There must be good leadership, good guidance, and good teaching just as in any other type of class.

It is important, too, that we know what our students are thinking about, what their reactions are to the various parts of the curriculum we are offering, and how far their own interests and needs are being met. One such device[2] gives us not only opinions of students, but frank statements of their likes and dislikes as far as the curriculum in physical education is concerned. This provides information we can never secure any other way, and also it gives the student a feeling of importance, a belief that he belongs, some assurance that he has a part in planning the curriculum. It is also the first step in a democratic approach to evaluating and re-planning our teaching. But it takes courage on the part of the instructor because students seldom "pull any punches" especially when the replies are anonymous!

Since any honest evaluation in physical education must begin with where we are now, rather than where we were, or where we would like to be, the device just mentioned has value. And the plan should probably be repeated from time to time as further re-checks and personal opinions are desired.

In considering the curriculum, we are faced with five or six choices as to what we want. There is the "family dinner" type, the "take it and like it" plan which has been for so many years traditional. This could be, and often is a well-planned program, especially if the instructor is aware of student needs and plans accordingly, but it leaves little chance for variation or adjustment for individual differences.

Then there is the "smorgasbord", the "take anything you like" type of curriculum which represents the more or less free choice which usually ends up by being largely seasonal sports. Here again, if there is some guidance and the variety offered is of equal value, and checks and balances operate to prohibit anyone from taking the same activity over and over again, the end result may be good for many students.

When we get to the "meat dish, plus cafeteria" type, we find the core curriculum, with guided choices, or a basic program for all, and election in areas of interest and needs. As the students are helped to make meaningful choices, the end result is good, and each individual not only has many challenging experiences, but as many of his needs are met as time, facilities and equipment permit.

If we are primarily interested in having all of the students have a good time during every minute of every class, we might have the "dessert" type of curriculum, where everything that is offered

2 C. O. Jackson. Are you Meeting the Needs? Journal of the American Association for Health, Physical Education and Recreation. 26:6 (June 1953) p. 37-8.

is only a small part of the curriculum on the mistaken theory that there must be much variety for best interest and enjoyment. The result too often is a smattering of many things, mostly of a recreational nature with little or no real mastery of skills to the point where the student may be likely to engage in the activity outside of school at some other time. If the emphasis is only on fun rather than learning there usually are no long term values.

Regardless of the plan in the curriculum, there are still too many schools which consider the physical education period, at least for boys, as a "try-out" session or a screening device to siphon off the likely prospects for the varsity. This becomes another type of curriculum whose only goal is to turn out stronger athletic teams especially in football and basketball. The students who appear to have "it", athletically speaking, get the preferential treatment, and the rest go on, enduring semester after semester of the same routine activities. Too often, they get little in the way of instruction since the class members, after all, are the "dubs" remaining after the "cream" has been removed.

We must remember that athletes are usually only a small percentage of the total students enrolled in school, and that the majority, the rest of the students, who lack abilities and skills are the ones who need at least as much attention, if not more in the way of inspired teaching and adjustment of programs to meet individual needs and differences. To fathers and mothers, and especially to the students themselves they are still important people, regardless of their athletic mediocrity.

"The "curriculum merry-go-around" that Rosalind Cassidy[3] presents so vividly in her latest contribution is not a static one. It requires considerable professional effort to "get on the merry-go-round" in most communities since it is easier to leave things as they are than to attempt to make changes for the better.

It is a ride that can never be enjoyed solo, for there must be other "riders", including students, teachers, parents, consultants and other school and community personnel. The entire "wheel" must revolve in a climate which encourages study and evaluation, and stimulates best educational development. Everything that is done in such a curriculum study must be in terms of the immediate and future needs of boys and girls, in relation to the school and community in which they live. And it is such a long time process that an interested party can get on the "merry-go-round" almost anytime it stops, and still contribute and grow professionally. The end result is always a better curriculum and happier, healthier boys and girls, not to mention more professional, competent and inspiring teachers.

We have discussed some things in "the age of sloppiness" which appear to be important for best teaching, presented some views of curriculum planning, and suggested some possibilities for all-round improvement. Perhaps if we could get started today we might make the necessary adjustments to bring about a better curriculum and better teaching in our own situation. An old Chinese proverb states that "the longest part of any journey is the first step". We must get started, we must take that "first step".

3 Rosalind Cassidy. Curriculum Development in Physical Education. New York. Harper & Brothers. 1954, 399 p.

Planning *the* Physical Education Program *of the* Elementary School

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THE modern physical education program in the elementary school is a recognized instructional and administrative responsibility. It is no longer considered a recess period, merely a period for supervised play, or a period for mass exercise done to command. The physical education program today includes all of the directed and purposeful instructional and extra-class activities which stress the development of skills — physical, social, and mental — through the movement, care, and use of the total body(6). The evolutionary progress of program expansion has been very marked, has brought increased opportunities for the total development of children, and demands careful and detailed planning.

Procedures in planning the program vary with the limitations placed by state and local regulations, ways in which responsibilities for conducting the program are assigned, and with the needs of any particular school population. Some of the current practices and recommendations with respect to these are considered in the following paragraps.

Use of the Course of Study

In some schools the program of physical education is largely predetermined by state legislative enactments, state department of education requirements, or local school administrative and supervisory regulations. These requirements are usually implemented by means of a written course of study. The course of study, however, is only a guide to the teacher in establishing her own program. It requires alterations and supplementation, and should be considered as an aid in planning.

Assignment of the Teacher of Physical Education

The teacher of physical education in the elementary school may be: the classroom teacher; the special teacher of physical education; or a combination of the two, with divided assignment of responsibilities. Each of the three types is in operation in many places, each has basically sound principles, and each is faced with problems of planning. In present practice among smaller schools the classroom teacher is more often assigned resposibility for the program of physical education. In the larger city system, however, the trained physical educator is more often assigned either full responsibility for the program, or is designated as a supervisor, a resource person, or an itinerant teacher to assist the classroom teacher. Whatever assignment of responsibility is made, a significant trend is the cooperative plan-

ning of activities through the pooled judgments of teachers, pupils, principals, and supervisors.

The Classroom Teacher. The integration and correlation of the physical education program with relation to classroom activites is generally better if the regular classroom teacher handles all phases of the school program. The classroom teacher is in a strategic position to analyze needs and interests of children, to plan a broad program for the total development of pupils, and to adapt motor skills, understandings, and social adjustments necessary to achieve objectives. The classroom teacher, however, may be inadequately trained in analyzing physical skills and teaching correct form and body mechanics. There is the feeling among some leaders in physical education that the classroom teacher shows a natural neglect of some important skill trainings, and may not understand the proper scope and sequence of activities recommended for the ideal program. The major problem in planning becomes one of constructing a simplified plan for the total program of physical education, with easy reference to basic materials. This may be done by describing the major phases and activities of the program and giving concrete suggestions as to methods for conducting each phase(3).

The Special Teacher of Physical Education. The specialized person is better qualified than the classroom teacher to teach good basic skills and techniques, and to prepare pupils for satisfactory future physical education activity; however, the specialist may be less familiar with the interests and needs of elementary school pupils, and may place undue emphasis upon acquisition of skills. The major problems of planning become those of obtaining firsthand, pertinent knowledge of the abilities, interests, and needs of children; integrating activities with other phases of the school program; and arranging a satisfactory schedule of physical education classes. This may be done by careful study of available pupil-records, pooling of information relative to the backgrounds and present statuses of pupils, and cooperative planning by those responsible for the total educational program.

Combination of the Classroom Teacher and the Specialist. A program conducted through the combined efforts of the classroom teacher and the physical education specialist seems to be most desirable. The division of responsibilities must be determined before procedures in planning may be undertaken.

In some schools the classroom teacher plans and conducts the program of the primary grades, and the specialist assumes responsibility for the program in the intermediate grades. The major problem of planning becomes one of providing for continuity and progression in the selection and conduct of program activities. This may be accomplished by planning cooperatively the total program of physical education throughout the elementary school.

It is becoming increasingly the practice in many schools for the classroom teacher to handle the program of physical education under the direct supervision of a highly trained and experienced special teacher of physical education. The role of the supervisor is one of guiding the teacher, by assisting in planning the program of activities and in teaching proper skills and body control. The major problems of planning become those of acquainting teachers with the scope of a total program of physical education, and of rendering effective

special help where needed. This may be done by establishing an *esprit de corps* among teachers and supervisor, and arranging for systematic inservice education as a regular part of the school program.

In some schools the physical education specialist serves as a resource person who is on call to render special help to classroom teachers when it is requested. The problems of planning become those of finding ways in which teachers may be motivated to seek services of the specialist, and in which effective consultant services may be rendered where needed and requested. This may be done in much the same way as a supervisor establishes an *esprit de corps* and renders inservice education among classroom teachers, but may require more ingenuity on the part of the resource person who is in a non-supervisory capacity.

In a limited number of schools the special teacher of physical education is an itinerant teacher. The specialist may teach all new activities at regularly scheduled periods, and the classroom teacher simply supervises the conduct of activities previously taught. In some situations the specialists may teach only certain phases of the program with which the classroom teacher has difficulty. Procedures of planning must depend upon assignment of responsibilities to each teacher. The major problem of planning is one of providing for continuity in the progressive development and practice of proper physical and social skills. This may be done by encouraging the classroom teacher to observe closely the methods and technics of the specialist as new activities are taught, and by providing specific instructions for guiding pupils in recommended practice and correct performance.

Determining the Scope of the Elementary School Physical Education Program

There is fairly general agreement among educational leaders today that the purpose of education is to stimulate and guide the growth of an individual so that he will function effectively in life activities associated with vocation, home citizenship, and enjoyment of leisure; and so that he will also possess in high degree mental and physical health and vigor, and the skills and interests appropriate to most effective learning in the future(1). The basic philosophy which guides the program of the elementary school as a whole applies equally well to physical education. The purpose must be analyzed and broken down into limited objectives which are essential to the attainment of the goal. Statements of the aims and objectives of physical education have been set forth by outstanding leaders such as Jesse F. Williams, C. H. McCloy, Jay B. Nash, and others. These objectives usually include efforts toward increasing organic vigor skills, knowledges, and appreciations through the various physical activities. Educational leaders have listed the characteristics of children and have suggested types of physical activities most suitable at various levels of development. Such analyses are basic to effective program planning.

The planned program should be regarded as flexible and tentative, because of ever-present and significant variable factors in any community. Administrative problems may limit or determine organization. Available facilities and equipment, and location of the school site may condition both material and emphasis in the selection of program content. Time allotment and grade placement demand intelligent discrimination.

The total program of physical education for the elementary school should be a balanced one of a wide range of activities, planned so that there is definite progression throughout the grade levels. Careful observation and instruction in good body mechanics should be planned and continued throughout the conduct of all activities. The correct performance of basic motor skills is the basis for efficient use of the body and is the underlying principle of all physical education activities. Limited activities and program adjustments should be planned and provided in order that atypical children may receive instruction and participate in physical education activities suited to their needs and limitations. Activities should be determined upon advice from the medical specialist, and supervision should be provided by a special teacher with training in adapted activities suited to the handicapped.

The scope of the elementary school physical education program includes activities which may be classified as: phases of the instructional program, and extra-class activities.

Phases of the Instructional Program

Brief descriptions of major activities included within each classification are given in the following paragraphs. Terms used in the various listings are those which appear in the literature by leading authorities in the field.

Rhythms and Dance. These activities are designed to promote body balance, coordination, and emotional freedom through expressive and creative movements made with or without music. Various forms of organization within this phase of the program include: creative rhythms and dance: modern, natural, or interpretive dance; rhythmical dramatizations, mimetics, or story plays; free rhythms, or fundamental movements; singing games; folk or international dance; social dance; gymnastic, clog, or tap dance.

Games and Sports. These activities are designed to provide active play for strengthening and coordinating large muscles, and to provide opportunities for cooperation, competition, leadership, and followership. Forms of organization within this phase of the program include: directed, dramatic, or guided play; small and large group, or fundamental play: games of low or simple organization, relays, or hunting games; simple or modified team games and sports, or games of high organization; classroom or quiet games.

Stunts, Pyramids, Tumbling, Apparatus and Self-testing Activities. These activities are designed to provide abundant use of large muscles, which promotes development of body control and self-confidence.

Aquatics. These activities are designed to promote confidence and overcome fear in the water, and to develop abilities to float and to swim.

Time Allotment for Phases of the Instructional Program

The following chart shows recommendations concerning percentages of time during the school year which should be devoted to major types of activity in the several grades. The selected authorities whose recommendations are given include the following: Salt, Fox, Douthett, and Stevens(3); Vannier and Foster(6); Van Hagen, Dexter, and Williams(5); Sehon and Anderson(4); and Voltmer and Esslinger(7).

RECOMMENDED PERCENTAGES OF TIME DEVOTED TO MAJOR TYPES OF ACTIVITY IN THE PHYSICAL EDUCATION PROGRAM

Activities	Salt, Fox Douthett, Stevens	Vannier & Foster*	Van Hagen Dexter, & Williams	Sehon, Anderson, Hodgins, Van Fossen	Voltmer & Esslinger*
Grade 1:					
Rhythms & Dance	40	50	50	40	70
Games & Sports	60	30	25	60	25
Stunts, Tumb., etc.	0	15	25	**	0
Grade 2:					
Rhythms & Dance	40	45	50	40	70
Games & Sports	60	30	25	60	25
Stunts, Tumb., etc.	0	20	25	**	0
Grade 3:					
Rhythms & Dance	20	35	50	40	40
Games & Sports	70	40	25	60	45
Stunts, Tumb., etc.	10	20	25	**	15
Grade 4:					
Rhythms & Dance	20	20-30	35	40	25
Games & Sports	70	45-55	50	60	50
Stunts, Tumb., etc.	10	15	15	**	15
Grade 5:					
Rhythms & Dance	20	15-30	35	40	20
Games & Sports	70	45-55	50	60	55
Stunts, Tumb., etc.	10	10-15	15	**	15
Grade 6:					
Rhythms & Dance	20	15-30	35	40	20
Games & Sports	70	45-55	50	60	55
Stunts, Tumb., etc.	10	10-15	15	**	15

* Remaining percentages of time are allotted to Aquatics.

** Body mechanics and self-testing activities are included in Games and Sports.

Extra-Class Activities

Activities selected for extra-class participation require careful analysis and evaluation in terms of concomitant outcomes. Planning should take into consideration the organized activities sponsored by community recreational agencies, and unwise repetition and duplication should be avoided. Recommendations from current literature concerning common types of activities for extra-class participation are given in the following paragraphs.

Supervised Play Programs. Periods before school, at recess, noon, and after school may be utilized as periods for physical activity, and require constructive organization and leadership by teachers. The child has an opportunity during these periods to practice activities he has learned in instructional periods.

Intramural Athletic Program. A program in intramural athletics may be developed for pupils of grades five and six. A definite plan should be made

for placing boys and girls in groups where they may compete with others of equal age, weight, and height. Crippled or incapacitated children should be provided with opportunities to participate in organized, competitive games suitable for their needs. Adult supervision, with student leadership and management should be provided in all intramural activities.

Playdays. Playdays may be planned so that all children within a school or a geographical district get together for mass participation in varied types of individual and group games and athletic events. Teams are comprised of children from all schools, and one school does not compete against another. Playdays organized and held at the close of seasonal programs in physical education may help to promote the planning and carrying out of more progressive activity programs in the instructional program.

Interschool Athletic Program. Interschool championships in highly competitive games below the ninth grade have been opposed consistently by leading educators and by resolutions passed by the Society of State Directors of Health, Physical Education and Recreation, and by the Department of Health, Physical Education and Recreation of the National Education Association. Adequate competitive programs organized on intermural or community levels will meet the needs of elementary school children(2).

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Rhythmic Activity *in* Childhood Education

By RUTH EVANS
Director of Physical Education for Women
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Values

CHILDREN of elementary school age delight in being physically active. They are never so happy as when they are romping or running, racing, jumping, climbing, or otherwise participating in vigorous activity. And along with their strong physical drive there is also within young children a great love of adventure and a desire to explore. To run up a hill in order to see what lies beyond, to walk through a field of tall grass, to climb a tree and to swing from its branches; these experiences are the sort of thing that children in the five to twelve year age range crave.

In school, as an aspect of physical education, a well-planned and carefully taught program of rhythmic activity may provide exciting adventure for children. To explore movement, to learn to respond physically to the rhythm of music or any other form of accompaniment, to so move individually or with a group is indeed an adventure; an adventure in movement.

But the values of rhythmic activity are not limited to the physical. Participation in this type of activity also contributes to the social development of children. To dance with a partner, to be a member of a square dance set, to join hands in a circle; all these things help to make young people feel that they "Belong." And rhythmic activity also provides wholesome recreation. Dramatic rhythms, singing games, play party games; all are fun. And fun is essential to human growth and development.

In the view of the many values which may be claimed for the rhythmic activity program, most teachers of young children consider it an indispensable part of childhood education.

Scope and Sequence

The program of rhythmics for children of elementary school age may indeed be broad in scope. There is almost no limit to the variety of activities which may be utilized by resourceful and imaginative teachers. Almost countless singing games of a traditional nature are available and suitable for inclusion in the program; games in which the rhythm and the mood of the verses and music are as attractive to children as the movement involved in these activities. Punchinello, a singing game about a circus clown, is an excellent example. Play party games such as Skip To My Lou, and Push The Business On, bring to the program a social flavor which is most desirable and enjoyable. Folk dances such as Bleking (a swedish couple dance) teach children the various types of movement characteristic of people of different racial and nationality backgrounds.

Fundamental movement such as walking, running, and skipping, and swinging, swaying, twisting, and stretching provide wonderful opportunity for learning response to music through vigorous physical activity. In addition to all these activities there are many possibilities for interpretative movement. Imitation of animals, toys, fanciful characters are typical of these. Play rhythms such as ball bouncing and rope jumping; the imitation of the movement of such mechanical devices as clocks, merry-go-rounds, and rowboats; the dramatizing of the fun enjoyed on playground swings and see-saws; the interpretation of nursery rhymes, all are attractive to children. And last but certainly not least is the creation of original patterns of rhythmic movement. These patterns may be based upon the mood and character of simple music, the sense of the words of a song, a story, a poem, a seasonal event, or many other things. Original or creative activities may range all the way from simple interpretation of mood to complete dramatization.

All these activities which have here been mentioned are but some of the possibilities. Following is a suggested outline of classified materials for use with children in elementary schools, with samples listed under each classification:

I. Fundamental Rhythms
  A. Locomotor Movement
    1. Walking, running, skipping, sliding, hopping, galloping
  B. Axial Movement
    1. Swinging, swaying, twisting, bending, stretching

II. Interpretations
  A. Animals
    1. Bears, birds, camels, chickens, ducks, elephants, giraffs, kangaroos, penguins, rabbits
  B. Toys
    1. Airplanes, dolls, tin soldiers, tops, trains
  C. Play Rhythms
    1. Swings, see-saws
    2. Clocks, elevators, ladders, rowboats
    3. Ball bouncing, rope jumping
  D. Fanciful Characters
    1. Dwarfs, giants, fairies, goblins, witches

III. Movement in Time and Space
  A. Space
    1. Up and down (level)
    2. Round and round (direction)
  B. Time
    1. Fast and slow (run and walk)
    2. Metrics (2/4, 3/4, 4/4, 6/8 —response)

IV. Stunts
  A. Tumbling
    1. Somersaults, cartwheels
  B. Gymnastics
    1. Sit up and lie down

V. Dance Rhythms
  A. Elementary
    1. Step and point, heel and toe
  B. Advanced
    1. Polka, schottische, mazurka, two-step

VI. Set Forms
  A. Singing games
    1. Circle games — Looby Loo, Muffin Man, Bow Belinda
    2. Play party games — Skip to my Lou, Push the Business On
    3. Nursery Rhymes — Hickory, Dickory Dock; Pussy Cat
  B. Dances
    1. Folk dances — Bleking, Kanafaska, The Hatter, Nigarespolska, Six-hand Reel
    2. Children's dances — Yankee Doodle, Dixie, Pop Goes the Weasel

VII. Original Patterns
- A. Stories
  1. Snow-White and the Seven Dwarfs, Rumplestilskin
- B. Poems
  1. The Merry-go-Round, Christopher Robin
- C. Mechanical Rhythms
  1. A lumber mill, Farm machinery

Planning the Program

The order in which activities are listed in the preceding outline does not in any way indicate a prescribed sequence. It may be highly desirable to introduce children in a kindergarten to rhythmic activity by starting with simple fundamental rhythms such as running or skipping. On the other hand, to begin with a singing game which is based on social activity may prove to be more advantageous. The use of rhythmic activities done in circle formation often provides the best means of orientation to the group for young children. Merely to join hands in a circle may easily prove to be the thing which makes children feel secure.

Planning on a seasonal basis many times proves to be very successful. Harvest in September, Hallowe'en in October, Thanksgiving in November, Christmas in December, and so on, one could go through the whole school year and find a suitable approach within each month. Witches and goblins for Hallowe'en approach within each month. Witches and goblins for Hallowe'en, toys for Christmas, the circus for June — all these set up excellent learning situations in rhythmic response.

It is sound teaching procedure to share the planning of the rhythmic activities program with children. The interests of these young folk often prove to be the most valuable criteria for the selection of program activities. And children contribute many valuable ideas if they are given the opportunity to do so. After all, children themselves are usually the best judges of what children enjoy. The suggestion that planning should be shared with children in no way means, however, that the judgment of teachers is not important to the success of the program. It in no way suggests that teachers should not take active part in the planning. It merely recognizes the fact that the combination of mature judgment, based upon experience and professional preparation, and the spontaneous interest and enthusiasm of children provide an excellent combination for successful program planning. "Let's do this," is far better than, "Today we will do this."

Teaching Suggestions

Method in any area entails (1) a plan, (2) translating the plan into action, and (3) evaluation. Each of these steps is essential to the success of any venture. It has already been suggested here that planning be done cooperatively by teacher and children. Evaluation should follow the same procedure. A look back on what has been done by a teacher and a class together often brings out many ideas and suggestions for improvement that otherwise might never materialize. But what about the conduct of the program? Should the responsibility here be shared? By all means. But care should be taken by teachers that in their eagerness to give credit to children for their ideas and suggestions they do not forget that teacher direction is of utmost importance. Direction that leads to intelligent self direction even to the extent of saying,

sometimes, "This is the way to do it," may quite well be entirely acceptable to children. Children, many times, need help, and know it. They do not, however, always know how to ask for this help. To direct children in such a way that self direction emerges is a sign of skillful teaching.

For the teaching of rythmic activities the following suggestions are made:

1. Each lesson should be planned with care, but the plan should be sufficiently flexible to permit changes and adjustments.

2. Each lesson should provide children with a satisfying amount of physical activity.

3. Each lesson should include some activity which is familiar to the children, as well as some activity which is new.

4. Simple rules of safety should be observed in the use of space. Children should be taught not to move "against" the group, but, rather to go "with" the others.

5. Preliminary explanations should be kept to a minimum.

6. A lesson should not be continued beyond the point of interest.

7. Suitable accompaniment is an essential to the success of the program.

8. Corrections should be made singly. Confusion results if several are made at one time.

9. No child should be forced to participate in rythmic activity. Time usually takes care of this problem.

10. Each lesson should end with a brief discussion of what has been done.

BOOK REVIEWS

Creative Rhythmic Movement for Children. By Gladys Andrews. N.Y. Prentice-Hall. 1954. $4.75.

Here is a full, comprehensive, and provocative book on creative rhythmic movement that will be of great help to teachers who are truly interested in understanding children and their actions. The book tells how to use rhythms to help children develop their desires for expression through art, music, language, science, and other media. The author, well known in her field, has worked with children of all ages, student teachers, and teachers for many years and is thoroughly competent in this very vital area of education. The present reviewer counts it one of his great fortunes to have studied with Dr. Andrews and he is amazed at the amount of her knowledge and personality that has been transferred to these pages. The book is adroitly organized and more than sixty musical selections and action photographs add to the usefulness of the volume. Based upon the sound psychology, that it is the nature of the child to be active, the author points out how creative rhythmic movements may be a potent force in the harmonious development of the child.—PAUL ZANKOWICH.

Three Centuries of Ballet. By Cornelius Conyn. Houston, Texas. Elsevier Press. 1953. $6.50.

The general development of the dance throughout the ages is traced in this most informative and uniquely handsome book. The basic principles of European and oriental folk dances are explained and the controversy in regard to the classic ballet and the modern expressionistic dances is considered. School and college libraries will want to have this book on their shelves for its wide scope and wealth of photographs.—WILLIAM P. SEARS.

Measuring Achievement *in* Elementary School Physical Education Programs

By JEANNETTE SAURBORN
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HAPPY smiling faces! Children eager to get to their play time. Children moving freely, saying to each other in action what they think and feel. Children going, doing, saying, exploring and creating are the real test of children's learning through physical education experiences. How do you measure this? There is no measuring rod for children do not stand the test of a yardstick. It can only be measured by how children feel and what they say about their experiences in physical education.

"Gee, what are we going to do today?", "Can I do this!", "Look at Johnny!", "Watch me.", "I didn't know I could do this!", "Last year I wasn't good at this and look at me now!", "I feel power.", "Let's play a game of softball.", "Let's do it again!", "Daddy will help me.", "Carl, let's play after school.", "Can we go for a hike and cook out?", "Can we have a square dance this Friday night?", "I can referee the game.". These exclamations are the real tests. They are not the comments of one child but many. They measure achievement in elementary school physical education and interpretated evaluate physical education programs.

What Are We Going To Do Today?

Children asking these questions are obviously in a program which allows them to feel a part of planning. In such a setting children will naturally and sincerely express interest in those activities which have meaning to them. Sensitivity to children's need to be a part of what is going on provides for freedom of expression of this sort. "What are we going to do today?" implies programs are not set. Curriculum is something that keeps growing and develops with children from day to day. When children have the freedom and responsibility in helping plan then programs are never static. Programs which take children where they are provide activities right for them by taking the clue from the children and children become part of the planning process.

Can I Do This!

This child is in a program where the space and facilities have given him an opportunity for success. He is not only evaluating himself but his program. The thrill, anticipation and lack of fear expressed by the child in the wonder "I can do and others have faith I can do" is a real test that activities are right and challenging to the child. In contrast activities which have set achievements for any age or grade group bring such responses as, "I can't do that.", "Who wants to do that.", "I don't want to do that.".

Programs which provide a wide variety of activities tend to keep alive curiosity and a spirit of exploration—of "finding out." Programs in which there are so-called "standardized" facilities

and equipment for a given age group tend to fit children to programs and not program to children. We know children like to climb but they climb in different ways and on different things. Creating a variety of things on which children may climb keeps alive the spirit "there is no end to what I can do."

Look At Johnny!

Children who can thoroughly appreciate what the other child is doing and feel the responsibility for others, set the keynote for the whole thing. What better feeling in a group situation than the atmosphere of "I will help Susie", or "Can I help?". Children learn much from each other. Ten year olds can have fun helping five and six year olds. Older children gain as much from such a situation as do the younger ones. Older children are often freed of a preconceived notion of achievement which they may have developed from their peers.

Programs set by definite and rigid time schedules do not allow for creating new groupings for children. Changing groupings, a different group, a new setting will help children feel a sense of belonging, of being an accepted member of the group, and the spirit of "together we learn".

Watch Me. I Didn't Know I Could Do This.

When a child says this he has passed a test. He is secure in knowing that he can achieve and he feels free to try new things. Knowing that he can do is often not realized at the moment. It takes time and a continuous atmosphere of encouragement, an atmosphere unrestricted by what he should be able to do because he is six or seven years old.

One of children's needs is to explore their physical and social world to the extent they are comfortable in their surroundings. This implies children achieve in their way — as they see and understand their surroundings. Such specific activities as walking on stilts, doing a high jump, galloping, calling a square dance, or whatever it may be, enhance children's learning as long as it is just as legitimate for a twelve year old as a six year old, or vice versa, to accomplish any of these things.

Programs based on an age or grade level, or any other single criteria defeat many children and the purposes of physical education activities are never realized.

Last Year I Wasn't Good At This and Look At Me Now.

Time works for this child instead of against him. He couldn't do it last year. He kept right on trying. No labels of failure and look at him now. Achievement! Children set their own goals. Our job is to help them achieve their goals at their own pace.

Programs which allow time for children to achieve cannot use grades or final achievement standards for a whole group at any given point. Some standards are meaningful when applied to individual children at the right time for them. This does not mean there is no evaluation — children and teachers continually evaluate to give direction to next steps.

I Feel Power.

Robert couldn't do anything. He had difficulty with vision. Everything he tried took time to make an adjustment to this handicap. There were many other things Robert had to work through. Then things began to straighten out and with each new accomplish-

ment came his evaluation. "I feel power. I feel like I'm flying on wings." What better measure of achievement than the feeling of soaring — of having mastered.

Programs which allow this to happen will have a variety of activities going on at the same time. Children will be making choices. A group of children will be engaged in many activities at one time. They will be making choices in light of their own stage of development. They will be evaluating their own achievement. What better judge of achievement than the child himself!

Let's Play A Game of Softball!

Peter knows his teacher isn't much good at games. But she lets them have time to play every day now they've learned to run their own.

Situations in which there is respect for what the other can do is the basis for good group living. Programs in which teachers and children work together make for effective learning — achievement on the part of both children and teachers.

Let's Do It Again!

There's still something of worth in an activity when a child asks to do it again. Perhaps he wants to perfect a specific skill. Perhaps he wants to try it in a different way. Perhaps he just wants to have the fun of doing it again. Whatever the reason, he has made his evaluation. There's something more in this for use.

"Let's do it again" may mean now, next week, or even six years later. Haven't you heard the request of a group of eleven and twelve year olds to play Cat and Rat? Programs based on a logical progression of skills by grade or age groups do not allow "do it again" kind of time. Children's request for repetition has a meaning "there is still value for us in the activity".

Daddy Will Help Me.

Mary gets enthusiastic and wants to do better. She knows her Daddy will help her. Home is a place for learning, too.

When parents and teachers feel a joint responsibility for helping children learn there is achievement for all. Children are secure in the feeling "we are all together in this". Programs which foster this understanding and relationship are extended into community living. Parents will be helping with Saturday morning and other week-end activities for children. Parents will be promoting additional space and facilities for community activities.

Carl, Let's Play After School.

These seven year olds go on to plan their after school play. Choosing their game, their captain and their place to play are part of the activity. Whenever children carry their school learnings into out-of-school-living an important evaluation has been made. Their learnings are theirs.

A real evaluation of a physical education program is the extent which the activities are used by children out of school. Activities carried on only during school time are limited in their value to children. An effective program for children can be seen in action after school, Saturdays, week-ends and during the summer as well as during the school day.

Can We Go For A Hike and Cook Out?

Children who make this request are widening their horizons. Exploring a

new physical environment, exploring working with others in a new activity — what an evaluation of growth!

Programs which take into consideration children's suggestions for new activities will always be growing and expanding. Programs have no limits as far as children are concerned. Programs measured by this "aliveness" will always be growing and expanding.

Can We Have A Square Dance Friday Night?

The eleven and twelve year old boys and girls who make such a request are using physical education experiences to serve their needs. Square dancing has become a fun way of "getting together". Again what an evaluation of themselves and the program.

I Can Referee The Game.

Children who utter this phrase have reached a stage of maturity — a feeling they can do and know they can do. This is a real test of achievement! Children who feel they carry on their own activities and feel they can do have achieved an independence and a security in their ability.

Programs which respect growing independence of children will see children in action and not an adult centered program. In such programs it is difficult to find the adult. The adult is one of the group and children are the center. They are learning to take responsibility for their own action and assuming responsibility for their own learning.

Summary

These are some of the questions we can ask ourselves as we attempt to measure achievement in elementary school physical education programs.

Do children come to physical education making suggestions for activities?

Do they feel pride in their achievement?

Do they appreciate the accomplishments of peers?

Do they try new things?

Do children move ahead to the accomplishment of their goals?

Do children drill themselves?

Do they feel the satisfaction of achievement?

Do children and teachers work things out together.

Do they make choices?

Do they have time to repeat activities?

Do children ask adults — teachers and parents — for help?

Do children use physical education activities in out-of-school time?

Do children find new things to do?

Do children use physical education skills in problems of growing up?

Do they manage their own activities?

Do children have fun?

These are some of the questions which help to clarify achievement in physical education programs. These questions help evaluate achievement — that children are learning.

Physical Education *and* National Survival

By H. HARRISON CLARKE
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The Threat to National Survival

WHETHER we like it or not, the threat of war and destruction hangs dangerously over this nation. Can any logical person doubt it? If so, ponder for a moment on the meaning of each of these words: Triple Alliance, Lusitania, Hindenburg Line; Fascism, Naziism, Third International, Munich, Pearl Harbor, Guadalcanal, Normandy; Yalta, Iron Curtain, Truman Doctrine, Cominform, Red China, Formosa, Korea; Dienbienpu, Malaya, Guatemala. On May 27, in an address before the National Security Industrial Association, Admiral Robert B. Carney, U.S. Chief of Naval Operations, stated his conviction that the free world today faced even graver alternatives in Indochina than those that led to the 1950 decision to fight in Korea. Would any sane person deliberately blind himself to these implications?

An essential motivation of European systems of physical education has been preparation for war. Every European nation has been bounded by potential enemies. Nationalism has been rampant. Universal military training has long been an accepted policy of these countries. Huge standing armies made of every nation an armed camp, with preparedness a national watchword. As for Great Britain, the insular character of the British Isles saved her from the necessity for keeping pace in land armament with her rivals on the Continent, but she maintained a navy which was overwhelmingly greater than any other. In World War II, however, she was subjected to terrific air attacks and narrowly escaped invasion. In such situations, the need for a citizenry made strong and enduring through rigorous physical activity has been and is vital.

American culture never has prescribed to preparation for war as an objective of education, except during short periods of armed conflict. In fact, such preparation has not been a national necessity. The United States has not had powerful enemies on its borders. For many decades, it has not been interested in territorial aggrandizement. Great oceans have been effective barriers to invasion from major powers elsewhere in the world. Thus, a prime purpose for the promotion of physical education in other countries, extending to ancient and primitive times, has not been of significant purpose here. As a consequence, the presentation of physical education in educational institutions as preparation for national defense has not been effective and programs designed to achieve this end have not survived.

In this century, our democratic belief met its first great challenge with the rise

of fascism and national socialism in Italy and Germany. As a consequence, the democracies were forced to defend their ideals of government in a second world war. Now, communism constitutes a similar but greater threat. No longer is our geographical isolation an effective barrier to attack; no longer will we have time to prepare after conflict is joined as in the preceding world wars. With the development of aviation, all countries have become neighbors. Within a matter of hours, enemy aircraft with their lethal loads can be over military and industrial targets in this country. Invasion would be relatively simple were not the United States fully prepared. These facts are recognized by America and this country has armed; and this country is committed to military action whenever and wherever deemed necessary.

If cold, sober facts are realistically faced, we are at war with Russia right now. In the report, Soviet Military Doctrine[1], prepared for the Army Air Forces by the Rand Corporation, Raymond L. Garthoff presents the Soviet world-view of war as the continuation of politics by other means. In this sense, the distinction between peace and war is obliterated, except for the difference of degree of armed force used in the perpetual conflict. Actual Russian military force is reserved for use as a calculated risk when their national and idealogical objectives cannot be achieved by other means. The Soviets have become masters of combining political, economic, psychological, and other "non-military" forms of struggle with armed conflict, usually substituting the former altogether. They have become adept in employing supplementary forms of violence, including fifth-column subversion and internal disruption, strikes and sabotage, political warfare, the mobilization of all discontents to the Red banner, colonial rebellion, satellite agression, and false lulling "peace" campaigns. As Lord Kitchener once said, "One makes war as one must — not as one would like to." In the interests of national survival, this cogent statement must be accepted by the United States of America here and now; and our policies governed thereby. Americans pray that our international problems can be solved without recourse to war; but to blind ourselves to the possibility of all-out conflict would be extremely short-sighted.

The Role of Physical Education

While physical education in the schools has been oriented to a peacetime culture, nevertheless, wars have influenced physical education in this country. The tragic lessons of World War I, when a large proportion of our youth was found physically unfit to defend their country from mortal danger, resulted in a tremendous expansion in the number of physical education programs in educational institutions. During World War II, many physical educators were utilized by the armed forces in the conditioning of military personnel; still others were used in the physical reconditioning of battle casualties; and numerous school and college programs were re-directed toward graduating physically fit boys and girls.

Following World War II, the tendency in this country was to return as rapidly as possible to a pre-war economy and society. Striking evidences of this tendency include the rush to demobilize, to give away or junk our armament in many parts of the world, to put large

1 Raymond L. Garthoff, *Soviet Military Doctrine*. Glencoe, Ill.: The Free Press, 1953. Chapter 1.

portions of our fleet in moth balls, to re-convert industry to peace-time demands. Then, came the realization that national survival was still at stake. Yet, the United States is still not fully awake to its danger; the United Nations' armies were nearly thrown out of Korea; following great bravado and a tragically heroic defense, the French forces met loss after loss in Indochina. This country still fumbles ineptly without a clear-cut foreign policy. One by one our national friends are withdrawing and advocating all-out appeasement in fear of the awesome consequences of atomic and hydrogen bomb attacks. To thinking people, all of this should convey a grim warning to a nation which is inclined to act lethargically until attacked and to feel smugly secure behind a demonstrably unsafe ocean barrier.

Physical education must once more unitedly accept, and continuously as long as danger exists, the conviction that its primary concern is the development of strong and enduring bodies.[2] Certainly, in time of war or the threat of war, the necessity for graduating from our schools and colleges men who are fit for arduous military duty and women who are fit to work in industry and elsewhere, for service in the armed forces, and for emergency aid on the homefront if the bombs should fall is essential to the nation's survival. The ultimate source of our effectiveness as a nation is based upon the fitness and courage of individual citizens. The problem extends to all walks of life, both in and out of the armed forces.

Esslinger[3] has dynamically pointed out that World War II demonstrated conclusively that the greatest need of our people was physical fitness. The experience of our men who fought in Korea provides further testimony of this need. Indicated below are some statements of officer veterans of the Korean conflict:

"Drive yourself and your men to develop your legs and your upper body. Many men have died and caused others to die, because they couldn't 'keep up' or couldn't carry their equipment."

"Stress physical fitness! Your physical condition can easily mean the difference in living or dying. There is no doubt that many Americans die because they just can't take it!"

"Ninety per cent of the time a man's combat efficiency is directly proportional to his physical efficiency."

"It is common knowledge now that the American soldier was unprepared physically for combat last summer [1951]. It is imperative that our troops be in top physical condition."

"I think that self and unit confidence depend to a large extent on physical strength and condition. It is reassuring to have the feeling that you can overpower an individual enemy if it comes to that. It is impossible to be in too good condition."

Recent evidence obtained from studies conducted under supervision of the writer emphasized the need for physical strength in effectively meeting

2 In fact, it has been the life-long belief of this observer that the development and maintenance of physical fitness of boys and girls should come first in the hierarchy of physical education at all times. War, or the threat of war, merely accentuates the fundamental necessity for conducting effective programs of this kind.

3 Arthur A. Esslinger, "Meeting the Physical Fitness Needs of Children," *The Reporter*, New Jersey Association for Health and Physical Education, Vol. 25, No. 1 (Spring, 1952), p. 6.

military duties.[4] As a part of research conducted under subsidy from the Climatic Research Laboratory, Army Quartermaster Corps, the relationship between various physical fitness tests and muscular fatigue from carrying Army packs 7.5 miles was investigated. With conditioned subjects carrying 61 pounds with a rucksack, a correlation of .91 was obtained when a gross strength test, the Strength Index, was used as the motor fitness test. Certainly, the development of strength and endurance is one thing the properly trained physical educator can accomplish effectively.

An Effective Physical Fitness Program

Physical education has demonstrated that it is possible to take individuals without organic deficiencies, structural abnormalities, or serious nutritional disturbances, and develop sufficient strength and stamina for the demands of life and for meeting unexpected emergencies, as well as for top-flight athletic performances. This type of service should be universally available. With the proper physical education program, the boy or girl who graduates from our schools and colleges with a Physical Fitness Index below 100 should be and can be an exception.

Physical education is the only organized program in the U. S. A. preeminently concerned today with the physical development of the individual. The history of human experience provides undeniable proof that frequently-repeated muscular exercises, adapted to individual needs, practiced in accordance with scientific principles, and extended over a sufficient length of time, yield striking improvements in vital organ functioning. The right kind and amount of physical exercise also develops organic power, vitality, stamina, vigor, and skills related to the development of these qualities. To adopt effective practices to realize these outcomes is essential.[5]

While many physical educators in the United States today are capable of proposing effective physical fitness programs for schools and colleges, extensive experiences have been had over a quarter century with procedures based upon the identification of sub-strength individuals and the application of practices designed to meet the individual needs of those so identified. This program subscribes to the thesis that basic elements of physical fitness of concern to physical education are muscular strength and endurance. Originating in 1925 with the Columbia University doctoral dissertation of Frederick Rand Rogers, an efficient process has been devised by him and other physical educators working conscientiously during the 1930's.

Until other procedures are proposed which can show an extended practical and successful trial in the field, this physical fitness program is urged for universal adoption and use to provide a strong and enduring school and college population. Emphasis in this program is placed only on those students with deficiencies or who are sub-par in some basic fitness element, and not on those who have achieved and maintain a proper level of physical condition. The essential steps in this program are:

4 H. Harrison Clarke, Donald K. Mathews, and Clayton T. Shay, *The Effect of Pack Carrying on the Muscular Strength of Involved Muscles.* Annual Progress Report No. 1, Climatic Research Laboratory, Quartermaster Corps, Department of the Army, 31 August 1953.

5 H. Harrison Clarke, *Development of the Sub-Strength Individual.* St. Louis: Fred Medart Products, Inc., 1951. 16 pages.

1. Discover boys and girls with special deficiencies revealed by medical, sensory, nutritional, and psychological tests and examinations.

2. Identify those who are below adequate standards of body strength through administration of Physical Fitness Index tests.

3. Determine causes of low physical fitness in individual cases by use of case-study procedures, health-habit surveys, personal interviews, and supplementary tests as indicated.

4. Relate these factors to the individual's somatotype, mental aptitude, and success in school.

5. Provide individual physical education programs, utilizing the following as appropriate in each case: proper kind and amount of exercise; health guidance; relaxation procedures; methods and activities selected to provide social, psychological, and emotional adjustment; and medical, psychological, and other referral as is deemed advisable.

6. Repeat appropriate tests, especially the PFI, at proper intervals to check on progress made by individual pupils.

7. Re-direct programs in individual cases as deemed appropriate in the light of re-test results.

Conclusion

This statement has stressed the urgency of a dynamic physical fitness program in our schools and colleges. Such stress, however, does not imply that other objectives of physical education should be neglected. With an adequate time allotment and sufficient staff and facilities, a balanced physical education program can be achieved. Furthermore, the physical fitness emphasis herein proposed is placed on those students with deficiencies in this vital element; the implication is intended that activities to maintain fitness levels only are needed for those without these deficiencies.

The principles of curriculum construction today indicate that educational programs for children should be based upon their needs. The needs of children are conditioned by the society in which they live and the pressures and problems with which that society is confronted. Consequently, at a time when our very existence is threatened by the Communist world, the needs of our children must be adjusted to this situation. Our boys and girls growing up during a troubled time like we have now certainly have a critical need for physical fitness. Physical education must provide effective physical fitness programs for those in need of such programs; and must insist that all students meet adequate physical fitness standards.

Body Alignment: Its Meaning, Measurements *and* Application

By IVALCLARE SPROW HOWLAND
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ITS MEANING

THE problem of man's adapation to the requirement of upright standing has been one of compelling interest to those engaged in the promotion of health and human welfare since the beginning of man's history. The emphasis placed upon the problem as reported by documents of history, shows that it has been one of concern from our earliest cultures. The great philosophers and teachers of the early Chinese and Greek civilizations expressed interest in man's struggle for bodily economy in the upright standing position as a law of organic development. More recently, scientists have reinforced this belief by study and research not only in the fields of medicine and physics but in psychology and the social sciences as well. It becomes, then the function of physical education to apply these findings to the end that adaptation to the upright stance may take place with greater ease and bodily efficiency.

Comprehension of the problem of adaption that the human body must make for balanced alignment in upright standing may be attained more readily if the physical organism is looked upon, in part, as a mechanical being.

The human body resembles a machine whose many separate parts must coordinate and adjust, one to another, to form a balanced whole. When these parts, each related to the others, work together consistently according to the mechanical laws of balance and equilibrium, the assembled whole functions effectively.

Like the machine, the human organism must meet the strains and stresses of forces acting upon it. It is subjected constantly to gravital stresses and other forces, such as momentum, inertia, compression, tensions, bending and rotatory stresses. To meet these forces, the human body must furnish compensating, opposing and resisting counterforces that may serve to control the skeletal framework in balance and alignment as a protection against strains and disturbances to body tissues. When the human body, like the machine, departs from maintaining balance and correlation of its parts, there appears to result energy waste and lessened efficiency.

It is apparent that the human organism is under continuous dynamic effort to maintain balance in upright standing and it becomes in a large measure a problem of mechanical adjustments as the struggle for bodily economy persists. Such a problem is one of complexity and difficulty, since the human body cannot be resolved into set and fixed adjustments. On the assembly line, the machine is designed for balance and its parts are properly aligned by forcibly tightening screws and rivets to meet the set pattern. In contrast, the human

organism must constantly adjust and re-adjust itself by means of its own systemic controls.

Adaptation and adjustment of the body parts into a pattern for efficient mechanical use becomes a problem of education and training. The body must be trained to align and adjust its parts with ease and freedom of movement in standing, walking and sitting as well as in other motor activities. It becomes important for the individual to learn first *how* to apply the laws of mechanics for alignment in standing in order to arrive at the proper mechanical use of the body in walking, running, or in other motor skills.

Equal in importance with the application of mechanical laws for dynamic adjustment is the establishment of a desire and a willingness to attain social and personal development through skillful body control. The appreciation of the importance for attainment in the efficient handling of the body in the fundamental skills must be developed through participation and practice in learning situations that are satisfying, meaningful and personally rewarding. Mere imitation of others who practice mechanical control and body poise, or, only an occasional attention to proper body alignment is not enough. Effective learning in mechanical control results from attention to meanings and repeated participation in the act until appreciation and habitual practice are coexistent.

ITS MEASUREMENT

Standing is basic to all fundamental motor skills. The baby first draws his body to standing uprightness and then, as he establishes balance, gradually develops the mechanics of walking. Likewise, running, leaping, jumping, and so forth, follow in succession upon the balance of body parts, established in standing.

The question of *what* is considered to be the *best* measure of upright standing has been one repeatedly asked by those concerned with the problem. No agreement has been reached; yet, those in search of an answer admit that mechanical alignment of body parts must occur in order to arrive at the most desirable and useful upright bipedal state. But the question is not concerned with mere uprightness. It asks *how* one may *best* mechanically control verticality in which bodily economy and efficiency prevail.

Recently, a valid body alignment measurement has been determined.[1] It aims to produce a balanced relationship between the tilt of the pelvis and the upper trunk and the long axes of the separate body parts as the approximate the line of gravity of the standing body. It is accomplished by aligning vertically two anterior anatomical body landmarks located on the center of the sternum and the superior border of the symphysis pubis of the pelvis that will parallel the vertical balance line of the body. This is achieved in such a manner that alignment of body parts may be more easily sensed, interpreted and practiced. The vertical alignment between the sternum and pelvis is referred to as "the sterno-pubic line".

The total adjustment of body parts into a mechanical relationship follows the skeletal adjustments of the body trunk as it assumes alignment between its upper and lower segments.

The body trunk may be aligned with

1 Ivalclare Howland, *A Simplified Technique for Teaching Body Alignment in Standing: Its Application and Evaluation.* Unpublished doctorial thesis. New York University, 1950.

ease by adjusting the upper trunk and the pelvis to form a perpendicular line between the body landmarks, center of the sternum and the superior border of the symphsis pubis.

The specific technique involved in the adjustment of body parts demonstrates how the human body may be easily aligned just as the automobile is aligned when its front wheels are in an exact straight line with the back wheels.

The steps for teaching the adjustment technique for standing alignment are as follows:

Locate the sternal landmark by placing a finger of one hand on the superior border of the sternum at the interclavicular notch and finger of the other hand on the inferior border of the sternum at the ensiform process. Then estimate one-half of the distance between these two points. Place one finger on the half-way mark to locate the center of the sternum.

Locate the pubic landmark by drawing the hands down the abdomen until the bony prominence of the pubic arch is felt. Place one finger on the superior border of the symphsis pubis.

Assume a characteristic slump position in which the chest is lowered and the pelvis is rolled (rotated) forward and upward in direction.

Slowly roll (rotate) the pelvis downward and underward and then lift upward through the abdominal wall and ribs until the two landmarks, located by the fingers, are considered, by sense, to form a perpendicular line to the floor.

Drop the hands, release any unnecessary muscular tension that may have occured in the shoulders or throughout the body. Sense an alignment between the upper and lower body parts.

Align the head with the trunk by placing the back of one hand horizontally under the chin, then draw the head backward on a horizontal line until the ear lobe is in line with the tip of the shoulder (acromion process). Test the ear-shoulder alignment by placing the thumb on the shoulder tip and the first finger of the same hand on the ear lobe so that a straight line in the same plane is formed between them.

Drop the hand, close the eyes, and sense a straight line being drawn up through the body from a spot just in front of the ankle joints between the feet to the very top of the head. The line is sensed as perpendicular to the spot in the supporting base.

Open the eyes and sense the adjustment of body parts in which poise and body balance occur without tension.

ITS APPLICATION

The body alignment of standing is so closely related to the mechanics of walking, running, leaping, jumping, sitting, climbing stairs, etc. that its application becomes highly essential to skillful accomplishment of these acts. One does not stand still; one stands dynamically by shifting the body weight constantly from side to side or forward and backward, yet, at the same time, the alignment of the body parts requires training to take place effectively for ease and economy.

Standing with the body parts aligned is mechanically basic to walking in good body mechanics since the shifting of body weights occurs by directing the vertical axis of the trunk in the direction of the propulsion impelled by the alternating pendular action of the lower extremities. It may be said simply; that the body trunk in standing alignment "goes for a walk" when walking

is executed in proper body mechanics. Likewise, in running, leaping, jumping, lifting and carrying etc. the body trunk maintains its dynamic alignment for efficient and effective action in these events.

In sitting, the same effect occurs. Balanced alignment of the body trunk is maintained while sitting. Alignment between the center of the sternum and the symphysis pubis permits the proper relationship to occur between the chest, shoulders and pelvis and the long axes of the femora.

Climbing stairs utilizes the alignment of the trunk for the best mechanical use of the body in propelling itself in a forward upward direction. The upper and lower parts of the body trunk maintain an aligned relationship which enhances the execution of the act.

In the mechanical problem of lifting and carrying heavy weights, the understanding and the practice of balance and alignment of the body trunk are highly essential in reducing stresses and strains which may occur due to the improper support and control of the loads to be lifted and carried.

It is essential, therefore, that the application of standing alignment be made basic to the learning and practice of the best mechanical use of the body in executing all fundamental motor acts.

The mechanical problems of everyday walking involve balance and alignment similar to standing except that the body mass is being transported forward in which there are moments of non-support and in-stability. The body maintains its trunk alignment while the body weight is being shifted to the forward foot. As the forward foot supports the body weight momentarily, the vertical balance line of the body, at that movement, falls just in front of the forward ankle over the navicular bone. This gives a moment of support in which there is balanced vertical alignment.

The balanced skeletal and muscular support of the trunk and head, as body alignment is assumed, is as highly important in walking, running, leaping and jumping as in standing. The aligned trunk and head reduces the amount of displacement that the body mass above the pelvis may give to the center of gravity of the body. The more closely aligned the body parts are to each other, the more closely the opposing forces acting on and through the body balance each other.

The alignment of the body trunk should be maintained in running, leaping and jumping as in walking or standing. The dynamic action of the entire body involved in these acts necessitates changes in body lean. The speed of the movement requires variation in the amount of lean in order to permit a greater forward component of the propelling forces to take place for efficiency and economy of movement. By necessity, the center of gravity must fall in advance of the supporting area but the body segments are kept in line for the purpose of giving the driving force produced by the legs direction and control. The head, thorax and pelvis maintain their alignment with each other at each variation of lean that originates from the supporting foot. The faster the movement, the greater the lean becomes and the farther forward the center of gravity shifts. But efficiency in movement and speed are enhanced by control of the aligned body lean and greater propelling action of the legs and arms.

In jumping events, the trunk align-

ment is essential for the proper direction of the force generated in the strong extension of the joints that had assumed deep flexion. The lean in these events occurs at the hip joints which permits the hip joint extensors to project strongly the body upward and forward. Trunk alignment at the take-off permits the projected flow of movement to take place along the long axis of the trunk without loss of direction and the arc through which the body is to be propelled. If slumping or disalignment of the body trunk occurs, the propelling force is dissipated and the height of the jump is reduced and distance sacrificed. The position of the head is again highly important in effecting trunk alignment. When the head is held in line with the trunk desired direction is assured.

The relationship of the upper and lower parts of the body trunk remains the same in sitting as in standing. In sitting for listening the head is aligned with the vertical trunk. The pelvis must retain its supporting tilt which can be obtained comfortably and easily if the lower back is well supported. The individual must sit far enough back in the seat of the chair to allow the upper legs to be properly positioned. The long axis of the upper legs must approximate a right angle with the long axis of the trunk.

The relationship of the various body parts in sitting for studying, writing or reading at a table or desk are the same as for listening except that the whole trunk inclines forward from the hip joints. The head must be lowered when writing takes place, but, if the trunk is well aligned in its inclination over the desk, the head position presents a lessened problem.

The relationships of the body parts of the head and trunk in ascending and descending stairs are the same as those in standing alignment. As ascending the stairs takes place, the aligned trunk, head and supporting leg slightly incline forward as one long lever with its fulcrum at the supporting ankle joint. On descending the stairs, the trunk and head assume their alignment over the supporting foot. The hip, knee and ankle joints of the supporting leg sharply flex while the stepping leg drops to the step below to become immediately the means of support. Thus, on descending, the weight distribution of the body is constantly centered over the supporting foot (with all body parts in alignment) as the vertical balance line shifts only slightly from one supporting foot to the other.

Training habit patterns for body alignment involves willing, thinking and perceiving skeletal alignment between body parts. Old habit patterns must be destroyed and new patterns substituted. Practice is important until the new pattern is set. Thereafter, when disalignment occurs, an awareness serves to return the body to its aligned pattern. The skill of standing in habitual alignment is attained by repeated practice of the new pattern. The perception of body relationships in standing is thus carried over into the skills of walking, running, leaping, jumping, sitting, and other fundamental skills. The kinesthetic sense of trunk alignment persists as a trained habit pattern in these motor acts.

Willingness to make an adjustment and change in the old patterns of body mechanics, and interest in attaining new patterns, result in a satisfying kinesthetic sense of achieved balance and control of the body movement.

Individual Remedial Physical Education — A Co-operative Program

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PHYSICAL education, if it is to be considered at all adequate, must include a remedial (corrective) program. In any school group, there are a number of individuals with orthopedic and other postural defects of a nature which can by exercise be corrected, improved, or at least prevented from becoming worse. These individuals, and there are many, have at least as much right to such a remedial program as they and all other pupils have for opportunities in connection with the attainment of the other objectives in physical education. The fact that few schools or school systems provide a remedial program in physical education, while providing remedial opportunities in reading and other areas, is impossible to defend. Perhaps the reason for the omission is that the physical education teacher has not with enough persistence requested the adoption of such a program; perhaps it is merely because the teachers and administrators have erroneously thought that such a program was either unimportant or too costly.

This article presents with very slight modification the remedial physical education program in the Philadelphia public schools. This particular program has been selected not because it is by any means the best that could be devised, but because it has been actually in operation with eminent results for a number of years. It was felt that this would be more meaningful to the readers and that it would receive more ready acceptance than a mere description of a hypothetical program which it might be desirable to adopt. This one actually works in a real situation.

Eight years have passed since remedial physical education started on an experimental but intensive basis in four schools in Philadelphia. Since the beginning, the same guiding principles, which are in harmony with sound educational policies, have served as a basis for the program. Adherence to these accounts for much of the success of the program. Some of these principles, and some procedures based on them, are:

1. The program is conducted only in schools whose principles agree to implement it without modifications.

2. There must be close cooperation between the central Division of Physical and Health Education and the Division of Medical Services, and between the personnel representing these Divisions within the respective schools.

3. Only teachers who meet specific qualifications are selected. One requirement is that the person shall have had experience as a successful teacher

for several years; another is that the teacher shall have completed an in-service course in the subject or have recently taken such approved college courses. All appointments are in addition to the regular teacher allotment.

4. In general, pupils are to be rostered to regular physical education classes as well as for individual remedial physical education. Adjustment of the over-all roster of each pupil to be enrolled in a remedial class is to be made wherever necessary.

5. A careful diagnostic examination must be given by the school doctor to any pupil before admission to a remedial class.

6. A program is provided in a school only if a well-ventilated and adequately lighted room is provided. In all new junior and senior high schools a special gymnasium is provided.

7. Classes are kept small enough to make individual instruction and attention possible. In general, a class of approximately ten pupils is considered to be about right.

8. Provision is made for pupil, nurse, physician, parent, and supervisor conferences with the teacher.

9. Provision is made for periodic follow-up by the medical personnel within the school.

Leadership within the school is so vital to the success of the program that in addition to the qualifications previously stated the following are sought in a teacher before an appointment is made:

1. He must possess the quality and the habit of getting along with other people.

2. He must be particularly sympathetic with the pupils, and make it a practice to understand their needs.

3. He must be enthusiastic about his new assignment and exhibit a willingness to pursue professional growth.

4. He must be willing to keep accurate records of the medical examinations, the follow-up, and the periodic evaluations by the physicians.

5. He must be able to provide good public relations within his school and in the community at large.

The program in the main is concerned with cases of poor posture, flat feet, and dysmenorrhea. Included, however, are some cases of overweightness, weak musculature, poor coordination, post-poliomyelitis, post operation, and mild cardiacs whose condition can be improved by special exercises.

In connection with dysmenorrhea, it is interesting to note that a local gynecologist has been making a study for the past several years of the results obtained by the special exercises in the public schools. The picture is extremely gratifying.

It is obvious that before a program is inaugurated in a school system, all of the plans and procedures should be carefully evolved and set down. That was done in Philadelphia. As examples, we cite the matter of selection of basic approved exercises, and of the printed forms to be used. A committee consisting of members of the Division of Physical and Health Education, the Director of Medical Services, and the four originally appointed teachers selected the basic exercises from authoritative sources after careful analysis and consideration. Printed forms were prepared for use by the physicians in recording defects and periodic evaluations. A form letter was drawn up for parental information and for consent for pupil enrollment; another letter for the family physician's information and to obtain his approval of the prescribed

special activities. Since pupils were taken from other classes for entire periods or parts thereof, a printed card was prepared which served the dual purpose of excusing a child from class and as a hall pass.

Contrary to the practice in many school systems, the regular pupil medical records are made available to our teachers of individual remedial physical education. The nurses in the Philadelphia public schools have been of invaluable service and have aided materially in maintaining the program on so high a plane. After the various defects are recorded by the doctor during the regular required bi-annual examination the nurse brings the pertinent cases to the attention of the teacher. The teacher then arranges for pupil conferences. Participation in remedial physical education is on a voluntary basis. When the pupil then expresses a desire to enter a class, he is given a form letter to take home (see preceding paragraph) with instructions to return the letter with a parent's or guardian's signature.

The remedial physical education room reflects the personality of the individual teacher. Imagine, if you can, a former drab locker room with cement floor and unattractive walls. The atmosphere is soon transformed as the teacher sets to work with the support of the principal, and sometimes of the Home and School Association. The walls are painted a pastel shade, the windows are graced with gay colored curtains, the floor is painted to eliminate the roughness, and rubber mats are provided for foot exercises. The transformation is almost unbelieveable. With colorful posters, a large three-section mirror, other items of special equipment, and a book shelf, the room is as attractive as any found in a new school.

The classes are kept homogeneous so far as rostering permits, but it is fairly common to find a small group industriously performing foot and leg exercises while, perhaps, two or three girls are practicing an exercise for dysmenorrhea, and others are working before the mirror on posture exercise. The plumb line test is important in ascertaining the proper alignment of the body segments.

It is common to see a number of pupils standing before plumb lines suspended in convenient places. One girl is adjusting her partner as the other assumes her best standing position. In another class you might find students checking their alignment against the wall.

The basic exercises for postural and foot defects are in use in all schools having a remedial program, and many of these are executed against resistance. Many effective resistive devices have been invented by the individual teachers; a number of these are being reproduced by The Board of Education for distribution to all schools which have a program. Some teachers have incorporated a play or fun element in the equipment which they have made. Such devices have been found valuable in motivating the program and in maintaining active interest. Other teachers with a lesser share of mechanical ability have experimented in photographic equipment. Remedial physical education is not an uninteresting field.

Numerous other good ideas and procedures are continually being developed by individual teachers. In this they are encouraged by the administrative and supervisory officials. Everything new is shared by and with all of the

remedial teachers. Periodic meetings not only provide a real workshop, but they serve as convenient opportunities for the exchange of ideas. Each teacher serves on a small committee which works on a specific phase of the program and reports on its activities to the entire group.

The in-service training of the teachers has clearly proved its worth. In addition to the meetings noted in the preceding paragraph, a formal in-service course is given during each school term.

It might be interesting to note that there are as many or more men teaching remedial physical education as women. Perhaps the amazing results obtained in the excellent rehabilitation programs during and after World War II gave added impetus to this type of physical education.

One hears at times that a stigma is likely to be placed on the pupil who enters a remedial physical education class. That very definitely has not been the case in Philadelphia. Proof of this is in the long waiting lists found in each school. One teacher is hardly enough to meet the needs of each school. The program has spread rapidly from the original four schools.

Remedial physical education seems expensive from the standpoint that an additional teacher is assigned to the school for that service. But the service is very much needed, and has paid big dividends! The excellent results have been so obvious in Philadelphia that strong support comes from every needed quarter. As stated earlier, every new junior and senior high school is now built with special remedial gymnasiums. Further evidence of official support can be seen in the fact that the new position of supervisor of remedial physical education was created this year. And let no one think that we place undue emphasis on this program, or that it has had any deleterious effect on our regular comprehensive required general physical education program. It has not.

It may be interesting to the reader to note some extracts from a few typical letters received by the teachers from parents and physicians.

" . . . We have seen a definite improvement in David's posture. Also, I have noticed that there is less hesitancy in going to his regular gym, and I believe he is much more confident about it. I attribute this to his work with your class. Many thanks."

" . . . I wish to state that Marvin has made marked improvement in his posture. His sessions in your class plus the exercises that he does at home nightly have done much to bring this about. He would like very much to continue taking these classes."

" . . . I take this opportunity to tell you that Margaret not only practices what you teach her, but she tries to teach us at home how to do the exercises. I want to take time to tell you how much Margaret and I appreciate what you have done for her."

Cases of scoliosis are not admitted to the remedial classes except upon the advice of an orthopedist. Typical of such counsel is: " . . . The child was found to have a well-advanced structural scoliosis with a right dorsal, left lumbar convexity plus marked rotatory deformity of the spine. X-ray studies were made, etc. . . . . Remedial classes are desired in this case for an indefinite period of time. The prognosis for straightening the spine is unfavorable but the possibility of holding the spine in compensated balance is excellent by virtue of the exercises — and therefore your interest is solicited." John Doe, M.D.

From another orthopedist: "I wish to express my sincere appreciation for the interest manifested in Edward's postural problem. I am cognizant of the failure of exercises to fully control or correct the established or structural scoliotic type. In the case of Edward, we have much to gain by symmetrical exercises and indoctrination of postural consciousness and control. The use of asymmetrical exercises — directed to stretch the musculature on the concave side and strengthen those on the convex side of each curve is of value. Kindly continue remedial work."

Perhaps the most significant comment comes from a principal who states: "I know of no activity in the school that is carried on with adolescents which gives more satisfaction to the teacher and the school as a whole than to see a physical defect almost fully corrected. The results can be seen, and the teacher receives the credit for the accomplishment."

Remedial physical education is still in relative infancy in the Philadelphia public schools, but great strides have been made in the past eight years. The ultimate aim of the administration is to extend individual remedial physical education into every school under competent leadership. With the excellent cooperation of the Division of Medical Services, the Division of Physical and Health Education, and the personnel of the individual schools, remedial physical education can look ahead to a brilliant future.

We recommend without reservation the adoption of similar programs in schools everywhere.

BOOK REVIEWS

The Great Issue of Politics. By Leslie Lipson. N.Y. Prentice-Hall. 1954. 5.25.

Leslie Lipson, professor of political science at the University of California at Berkeley, makes the assumption that a thoughtful understanding of the nature of politics and of political issues is the first foundation of freedom. The author considers the state in the context of society and in relation to the family, the church, the school, business, and the trade union. Timely and vital questions are posed and thoroughly reviewed. There are critical and intelligent chapters on the choice between an order of privilege and one of equality; on the freedom of the governed; on the concentration of power versus the dispersion of power; and on the nation-states and international order. The book is on the adult level and follows an intellectual, rather than emotional, approach. —WILLIAM P. SEARS.

Government by the People. By James M. Burns and Jack W. Peltason. N.Y. Prentice-Hall. 1954. $6.50.

This is the second edition of a popular text on the dynamics of American national government. Like the earlier edition, it provides a lively and penetrating analysis of the federal government as it functions today. The facts are organized to bear on such vital issues as the use and abuse of Congressional investigations, civil liberties for communists, federal spending and taxation, political party responsibilities, Congressional defects, presidential powers, formation of foreign policy, and the balance between economic and military defenses. The volume is obviously very timely and is written in a lively and lucid style.—WILLIAM P. SEARS.

Improving *the* Boys Physical Education Program *in* Secondary Schools

By GROVER W. MUELLER, *Director*
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SINCE physical education is an integral and important part of total education, each teacher, school, and community not only must have a sound interpretation of the objectives of total education, but must implement them as fully as possible and with due regard for relative values. It is essential to know the place of physical education in the "whole child" philosophy, and how it can serve in attaining the aims of general education.

Education of the whole child through the physical is rapidly gaining in stature as an avenue having great potentiality. Physical activities, generally, are self-motivating, and the participant can be easily influenced under good leadership. Few will deny that physical education, when well planned and presented, can contribute more to the goals of general education than can any other subject; not more to each goal than any other subject, but more to the combination of goals than any other subject.

This is made possible, in part, by the fact that there is a strong urge for physical activity in every normal boy, and physical education is largely in the pattern laid down by nature. Boys grant their teachers and coaches great authority. The instructors in physical education have less need or occasion to demand it than do most other teachers. Physical activities provide a wealth of opportunities for self-satisfying experiences and for readily measureable improvement, thus making physical education one of the most keen-edged tools in the educational kit. The well-organized and well-conducted program under good teachers has incalcuable values.

Obviously, if a program is to produce the desired results, the teacher must be aware of the general aims and specific objectives of physical education. He must concern himeslf with the development and maintenance of abundant physical fitness of the boys, through the acquisition by them of such qualities as coordination, strength, endurance, agility, speed, and good body mechanics, along with sound functioning of bodily processes. Secondly, he must provide for acquisition of skills and knowledges that make lives in modern America richer and more meaningful. Thirdly, the program must recognize the importance of learning to work cooperatively with others. In such experiences, emphasis on desirable standards of social, moral, and emotional control is vital. Fourthly, the program should encourage development of an enduring interest and desire for lifelong participation in physical activities. Finally, the teacher must strive to help those who have handicaps to realize that they

can, and should, develop and maintain their bodies within the limits of their particular handicaps.

With the above considerations as a guide, let us consider some of the shortcomings which are too frequently noted in physical education programs.

Program Content and Planning

Because of a diversity of available facilities, the observer as a matter of course notes a variety of programs. There is nothing wrong with this providing that the facilities are reasonably adequate and that the generally accepted objectives are attained through a balanced program. Generally speaking, a program with a variety of activities will satisfy more of the needs and objectives than a program that is limited, as for example, to touch football in the fall, basketball in the winter, and softball in the spring. A balanced program will include body-conditioning exercises, sport skills, games of low and high organization, apparatus activities, track and field activities, dancing, and aquatics, and possibly combatives.

The content of the program and the quality of teacher leadership will mirror the philosophy which has been adopted, making allowance, of course, for inadequacy of facilities or/and administrative difficulties which compel restrictions in the program. In planning the program, the teacher should continually make use of his training, of his teaching experience, and of what he has learned from observation of other good teachers. He will evolve his own program instead of adopting one that has a fine reputation but which may not be wholly suitable in his situation, or which in fact is not actually a good program. He will be discriminating, and will judge new trends in terms of satisfying the adopted objectives. Where possible, the program should reflect the contributions of everyone within the school or school system, making it a cooperative enterprise. It may be trite to add that an acceptable program has continuity and progression from the lowest elementary level through the high school. And, of course, the good program is geared to reach all boys. In general, it should be geared for the average, and then suitably modified for the below and the above average.

It is very important to realize that there is much need for *teaching*. In the required program, most of the time should be devoted to *instruction;* it should not be primarily recreational. Only through planned, intelligent, sympathetic teaching can we make learning and enjoyment possible. More teachers must come to a realization that they can help boys in a class to improve just as a coach can make school team members better ends, centers, and pitchers. It is true that the boy out for a team may be classified as having a higher physical quotient but that should mean to the teacher only that such a boy can attain a higher achievement level than others.

Tme Allotment and Frequency of Participation

The American Association for Health, Physical Education and Recreation has for long advocated a required daily period of physical education. The Mobilization Conference in Washington, in listing basic essentials, indicated one hour of physical education daily as the desirable program for high school boys. The same recommendations have been made by the Educational Policies Commission and the American Association of School Administrators. This time allotment is to be part of the regu-

lar school day, and is over and above the time devoted to intramural and interschool activities. It is common knowledge that this requirement is being satisfied in only a very small percentage of schools throughout the United States. In a great number of communities the maximum number of periods is two per week.

This deplorable condition calls for an active, intelligently directed offensive on all fronts by progressive educators and organizations at the local, state, and national levels, to the end that there be continuous improvement until the basic need has been met. Individual teachers of physical education can provide strong stimulus and encouragment for such action by carefully organizing their programs so as to use every available minute to best advantage. The fullest and best use of existing facilities and time allotments can well be one of the soundest and most convincing arguments for better conditions. Briefly stated, every teacher should make the most of what he has, and then seek more.

In addition to the required program, ample opportunity should be provided for as many students as possible to participate in an afterschool program. This should be done not only to increase the amount of activity, but to make possible participation, on a more recreational basis, in self-selected activities which have been taught in the required program.

Classification of Students

Next in importance to correcting program deficiencies is probably the matter of classifying students into reasonably homogeneous groups for instruction and activity. Lack of adequate attention to this matter is as common as it is indefensible. It seems strange and inexplainable that whereas physical education was probably the first phase of education in which grouping on the basis of ability and need, and individualized instruction, were commonly practiced (several generations ago), we have retrogressed greatly while in other phases the practice has been introduced and fostered. The noteworthy exception is in connection with the coaching of teams for interschool competition.

It is not our purpose to indicate specific strength or other tests, techniques, or procedures to satisfy this need. However, we do wish to emphasize that if adequate time and personnel are available, such tests can be very useful. In even the worst situations, however, the use of some simple activities which give reasonably accurate indication of a boy's ability, will prove satisfactory in classifying boys into effective working groups. We frequently have seen a class of forty high school boys classified in one 45-minute period by means of the rope climb, forward or/and backward roll on the mat, and the vertical jump. Simple modifications of football, soccer, basketball, softball, and volleyball skills can be used to classify boys for these activities.

As a final point, we wish to urge that the classification and grouping plan be such as to make possible the shifting of boys from one group to another at any time that a change is indicated. Only in this way can the needs be met most effectively. Needless to add, classification facilitates greatly the grading of students, and the evaluation of their progress.

Athletics

The broad basic program of physical education should be supplemented by a broad program of intramural and

interschool athletics. The intramural competition should be designed to meet the abilities and interests of the large mass of students, while the representative school teams primarily meet the needs of students who have attained higher levels of achievement. It need hardly be added that experience in interschool competition is highly desirable for all students, regardless of achievement level. Unfortunately, facilities, personnel, and costs make this prohibitive.

The interschool program should include baseball, basketball, cross country, bowling, fencing, football, soccer, gymnastics, lacrosse, golf, tennis, swimming, table tennis, track, skating and wrestling.

The purpose of the athletic program should not be championships, publicity, or financial gain, but opportunity for the many to participate on as equal terms as possible. From this participation emanate the social and moral gains that are so important in our American way of life. This is the frequently expressed belief and advice of most of our outstanding educators and education organizations. They emphasize that athletics are part of total education.

As indicated above, there should be several teams in the same sport wherever conditions permit. Wise use of facilities often calls for use of gymnasiums and grounds for types of intermural activities which are somewhat out of season. For example, basketball, table tennis, and wrestling could be carried on in the early fall, and even in the spring months.

Teaching and Coaching

Teaching and coaching are synonymous, but the terms are commonly used to connote different types of assignment. This, in some measure at least, is unfortunate. Good coaching, indeed, represents the highest quality of teaching. The procedures and techniques of the good "coach" are just as essential in teaching regular classes as in teaching school teams. There is much concern over the disproportionate amount of time and effort that a teacher of physical education seems willing to expend in his teaching of classes and intramural groups as compared with his "coaching." It is possible, of course, that real or fancied pressures from various sources may be responsible in many cases. Where the community and the administration have a sane athletic philosophy and put first things first, this problem will not exist. In such communities, the physical education classes are of primary importance, and the school athletic teams are a secondary although by no means insignificant consideration.

Co-educational Activities

There is a slowly growing trend to offer selected activities to groups consisting of both boys and girls. In some cases this is done as a regular part of the afterschool program; in other cases, as special occasions. This is valuable experience for boys and girls; if organized and supervised well, it establishes wholesome, natural opportunities for the teenagers of both sexes. Further, it is to be hoped that another outcome will be the development of a life-long pattern of common interests and participation between the two sexes and among all members of the family. Such activities as the dance, bowling, swimming, tennis, badminton, quoits, riding, and golf are excellent for co-educational participation.

The opportunity for co-education in physical education should be expanded.

Modified and Adapated Physical Education

A physical educator, worthy of membership in his profession, recognizes the special needs of students with physical defects, and makes provision for meeting them. Rostering such cases into special remedial (corrective) classes or to other special classes, depending on the defect, is clearly a service that should be included. Where this is not possible because of crowded school conditions or lack of enough teachers, special individual assignments in regular classes is a reasonably good substitute. It is important that this be done in cooperation with the family physician or school doctor. Few, if any, boys should be excused wholly from activities. The assignment of atypical boys to study hall, monitorial duty, locker patrol, rest, etc., in lieu of physical education, has no justification, and, psychologically, it creates a sense of inferiority. All atypical students can benefit from a modified or adapted physical education program; it is their right to obtain this benefit, and it is the responsibility of the school to provide the opportunity.

Public Relations

There are very few schools whose daily programs of physical education serve to make the public, the taxpayers, actively conscious of the great contributions this field can make to a boy's life. It is customary to resort to spectacles such as exhibitions, gymkanas, field days, color contests, and the like, to present our wares. In many communities the success of the school teams is the mark of the physical education program. It is our opinion, that the best public relations can be developed by an habitually sound program, geared to the needs and interests of all the boys in all the classes. To be sure, this can well be supplemented by an occasional special evening performance, and certainly by the regular interschool athletic program taken in stride and not emphasized out of proportion to other school activities.

Responsibility for the improvement of the physical education program is not solely that of the teacher, but he does have the greatest and the most direct responsibility. The interest and the sustained effort of Boards of Education in providing the necessary facilities and personnel is vital. Such interest and effort is contingent, in turn, on a sound understanding of the purposes of physical education. The role of the Superintendent and of the Principal, too, are important. They both need to have conviction and courage in requesting from the Board of Education what is best for the students, the teachers, and especially the physical education staff. Primarily, teachers of physical education carry the burden of responsibility for planning and administering the program itself. In that connection, they continually should evaluate their methods and content, and be alert to new developments. However, they certainly are the ones in the final analysis who must convince the administrators and taxpayers of the values of physical education by means of a steady flow of research findings, statistics, and other substantiating data, and by doing an effective daily instructional job with the students.

Public opinion is more concerned with education today than ever before in our history. Many national agencies

are exerting initiative in behalf of educational enterprise. Education is being mobilized for the present emergency which may be with us for a long time. These considerations make the objectives of the schools more valid today than ever. Will education accept the challenge, and assume a role more vital than was ever demanded of it? Physical educators have the same challenge and responsibility, but they have an additional opportunity resulting from the strong current national consciousness of the importance of physical fitness.

BOOK REVIEWS

Chapters in Western Civilization. Volume I (Second Edition). Selected and Edited by the Contemporary Civilization Staff of Columbia College, Columbia University. N.Y. Columbia University Press. 1954. $4.00.

The "Contemporary Civilization" course as developed at Columbia College has won for itself an enviable position in twentieth-Century American education. The readings of this volume have been selected to be used as collateral reading for this course and they are keyed to the source book, *Introduction to Contemporary Civilization in the West.* The volume, however, can independently serve a variety of other purposes. The chapters provide a political and economic history of Europe from the Middle Ages to the twentieth century. Especial stress is placed on the intellectual concepts that have concerned the occidental mind.—WILLIAM P. SEARS.

Introduction to International Relations. By Charles P. Schleicher. N.Y. Prentice-Hall. 1954. $6.75.

The importance of international relations in the world today, and throughout all history, cannot be too greatly stressed. In this volume, Dr. Schleicher, of the Department of Political Science at the University of Oregon, presents a most comprehensive and timely text in the field. Facts, forces, and theories are carefully identified and placed in meaningful frames of reference. The book is divided into three parts. In the first part, ambiguous terms are defined, concepts are clarified, and the reader is oriented to the whole field. A treatment of the foreign powers and of the roles of major areas in world affairs are the concern of Part Two. Seven of the ten chapters in this section have been written by distinguished students of the several fields. The third part considers the practical and acute problem involved in organizing a world society. Historical and contemporary efforts to organize the world for peace, and for the improvement of the social and economic lot of mankind, are identified and described. An excellent college text, and a volume for all who wish to study the pressing problems of a world sadly divided.—WILLIAM P. SEARS.

School and Community. Edited by Edward G. Olsen. N.Y. Prentice-Hall. 1954. $5.75.

This is the second edition of a volume that first appeared in 1945. Eight new chapters have been added and the volume has been thoroughly revised and greatly expanded. Five major sections comprise the volume. Part One relates the schools to life. Part Two deals with understanding the community. In Part Three, the problem of organizing the program is considered. Enlisting public support is treated in Part Four. The final section deals with trends and points toward the real community school.—WILLIAM P. SEARS.

The Construction *and* Use *of* Score Cards *in the* Evaluation *of* Physical Education Programs

By N. P. NEILSON

Professor and Head of the Department of Health, Physical Education and Recreation, University of Utah

IN 1928, while serving as State Supervisor of Physical Education in California, the writer received a letter from a High School Principal stating that he was very anxious to know the quality of the physical education program in his school and would I visit his school and give him an evaluation. Here was a challenge that could not be ignored. As State Supervisor, the visit had to be made. Was the evaluation to be subjective or objective? It was soon realized that those charged with the responsibility of evaluating programs depended chiefly upon subjective judgment of a rather general nature because few, if any, objective means of evaluation existed. Therefore, why not attempt to construct an objective score card and in the process involve all of the physical educators in the state?

Accordingly, arrangements were made to hold twelve regional conferences to which the physical educators were invited. At the first conference the general problem was presented and then analyzed by group discussion. The same process was repeated at each of the succeeding conferences. There was general agreement that the best way to evaluate the quality of a high school physical education program would be to measure the progress made by the pupils who participated. This seemed quite impossible because the hereditary and environmental conditions which affect pupils are so numerous and variable that one could never be certain as to how much of a pupil's progress in physical education was due to the school program and how much to participation in activities with boy scouts and church groups or on a community playground.

If an attempt were made to measure the improvement shown by pupils it would be necessary first to classify pupils into homogeneous groups so as to minimize the influence of handicapping and advantage factors, such as age, height and weight, and then apply valid achievement tests (initial and final) in a variety of simple and complex physical education activities involving knowledge, interests, attitudes, emotions, strength, skill, and endurance. But scientifically constructed achievement scales were not available; hence the decision was made to organize units, which could be objectively scored and which were directly related to the various aspects of a high school physical education program, and then assume that a good program would have more effect on the development and adjustment of pupils than an inferior pro-

gram. Such an assumption should be fairly valid.

Because of the tremendous number of problems involved, the regional conference groups decided that separate score cards should be constructed in the areas of health service, health instruction and recreation and that other score cards should be formulated for physical education programs on the different school levels. For physical education in the elementary school one score card should suffice. Separate score cards would be needed for boys and girls in junior and senior high schools. The size of schools was an additional complicating factor but this could be compensated for within each score card.

Development of the first score card in physical education for senior high school boys was begun at the first regional conference held at Colusa, California, in February, 1929. Discussion at the various conferences brought forth many valuable ideas which were immediately incorporated into the card. As each possible unit was considered for inclusion, it was checked against the criteria: (1) Does the unit have validity? (2) Does it justify its inclusion in terms of recognized objectives? (3) Does it justify its inclusion in terms of the principles of physical education which are generally accepted? (4) Can the unit be scored objectively? (5) Does it give the school an opportunity to improve its score? (6) Does the unit encourage the school to improve its score?

When it was thought that all of the desirable and necessary units had been developed, the score card was mimeographed in preliminary form and was sent to fifty men in California who, at the time, were holding important positions in physical education. These experts were asked to render judgments on the score card by first allotting 2,000 points to the five major headings and then distributing these allotments to the various units. Twenty-four summary sheets were returned involving the judgments of one hundred and twelve persons. Tabulations were made for each unit, thus obtaining the range and median of the judgments. These medians were used as constant guides while making the final allotment of points to each unit in the score card.

During the school year 1930-31, a seminar, composed of women instructors and graduate students, was held at Mills College under the direction of Professor Rosalind Cassidy. This group helped to develop a score card for senior high school girls by making the necessary adjustments in the boys' score card. As soon as the preliminary work was done, both score cards were mimeographed and copies were mailed to selected individuals who met in conferences, held at Oakland and Pasadena. Changes suggested at these conferences, along with others found desirable when the score cards were used to score three high school programs, were made and the final cards were then sent to the printer.

Thirty-three units, under five general headings, appear in the score card to be used in evaluating physical education programs for high school boys. Under instructional staff (1), units appear on kind, extent, and recency of professional preparation; membership in professional meetings; attendance at professional meetings; length of teaching experience; and fitness, personality and teaching efficiency of instructors. The units under facilities (2) are area of school site, placement of buildings on

school site, indoor facilities, outdoor facilities, equipment, general supplies, and first aid supplies. Program organization (3) includes units on percentage of pupils enrolled, time allotment for physical education, examination of pupils by physician, examination of pupils by physical educator, assignment of pupils to classes, size of classes for normal group, size of classes for corrective group, teacher load, records kept and used, credit, method of marking, and the award system. The three units under program of activities (4) are instructional period, intramural athletics, and interscholastic athletics. Units on professional magazines and professional books appear under the general heading of professional assistance (5).

The same general plan for arrangement of each unit was retained throughout each score card. A brief statement of desirable standards appears first, then explanations of technique of scoring, followed by the scoring device in numerical terms. The value of each unit may be different in reality than the score alloted to it indicates because some units are interdependent. For example, no pupils enrolled in physical education would negate all other units and outdoor courts and fields are possible only on a school site with sufficient area. Two units are given here to illustrate the general arrangement.

I AREA OF SCHOOL SITE

The modern physical education program in the high school stresses the playing of many different team games which necessitate large, level, outdoor play areas. Where sufficient land is not available, the natural type of program becomes impossible. This unit is so arranged as to require an increased acreage with an increased enrollment of the school.

TO SCORE Determine the total number of acres in the school site, then deduct the approximate acreage which is entirely unsuitable for buildings, playgrounds or other purposes of any kind. This is the acreage usable. Next locate the total school enrollment (boys and girls). The points in the column under the school acreage (usable) and opposite the total school enrollment, are the number of points to be given. Circle these points and record in square "Score Given."

	Number of Acres (Usable)						
Total School Enrollment	Less than 4	4-5	6-9	10-14	15-19	20-29	30 and over
0-100	0	38	88	114	120	120	120
101-300	0	31	75	114	120	120	120
301-600	0	25	63	101	114	120	120
601-1000	0	19	51	88	114	120	120
1001-1800	0	13	38	75	114	120	120
1801-over	0	0	25	63	88	114	120

Score Possible	Score Given

II TIME ALLOTMENT FOR PHYSICAL EDUCATION

One of the objectives of physical education is development of many neuromuscular skills. Adequate time at play is necessary for the perfection of these skills. It seems obvious that pupils will have greater opportunity to secure the many contributions to development which are inherent in physical education activities if the time allotment is adequate.

TO SCORE The time allotment for the instructional period only is measured here; it does not include time which should be spent in practice or in intramural and interschool games. Periods longer than 60 minutes are assumed to be double periods. Locate the number of times physical education is required of each student per week; also locate the number of minutes in the period. In the appropriate square will be found the points which are to be given as the score. If the length of periods and times per week are not constant, then use averages. Class periods devoted to health instruction are not to be counted as physical education periods. The length of the period includes time used in passing from class to class and also the time used at the beginning and end of the period for dressing.

After twenty years it became very clear that the two score cards in use needed revision. This was accomplished recently. The plan is to make necessary adjustments in the cards for senior high schools so that they can be published for use in junior high schools. A new score card for evaluating physical education programs in elementary schools, based on the recently published Neilson-Van Hagen book,[1] will be published soon.

Times per week	Length of Periods in Minutes														
	20	25	30	35	40	45	50	55	60	70	80	90	100	110	120
1	1	1	1	2	2	4	4	5	6	5	5	4	4	2	1
2	4	4	5	6	7	9	12	17	22	17	12	9	7	6	4
3	6	7	9	12	22	34	44	75	81	72	34	22	12	9	6
4	9	11	19	35	62	81	94	100	104	94	62	35	15	11	5
5	12	19	44	69	100	105	108	110	113	108	60	30	12	7	2

Score Possible	Score Given
113	

Score cards such as those described here may be used to accomplish a number of purposes. Because of their objective nature they may be used in research projects, in school surveys, as a technique in school supervision and by school administrators when explaining school needs to boards of education. Perhaps their primary and best use should be by school personnel in the voluntary evaluation of programs to find conditions which need improvement.

1 Neilson, N. P. and Van Hagen, Winifred, *Physical Education for Elementary Schools.* A. S. Barnes & Company, New York, 1954, pp. 552.

It may be assumed that teachers, supervisors, administrators, school board members, and parents have the desire to improve physical education programs.

Further, score cards should not be used by inspectors. Their chief value lies not so much in the total score as in the analysis made of the detailed score in each unit. Upon completion of the program survey, the principal of the school and the physical education instructors should meet to discuss results and to lay plans for the future. The score should be used as a stimulus to improvement rather than to compare one school's standing with that of another. Use of a score card should result also in suggestions for improvement in the card itself.

BOOK REVIEWS

Highway Safety and Driver Education. Edited by Leon Brody and Herbert J. Stack. N.Y. Prentice-Hall. 1954. $4.50.

Although driver education in the public schools is a relatively new venture, it has already received the attention due such a vital phase of education in a machine age. This text, edited by Leon Brody and Herbert J. Stack, of New York University justly celebrated Center for Safety Education, is the first full, comprehensive, and validated text in its field. Teachers of driver education will find it complete, very well organized, up-to-date, and concise. The editors have enlisted the aid of a panel of expert contributors and reviewers.—WILLIAM P. SEARS.

Driving Today and Tomorrow. By Margaret O. Hyde. Illustrated by Clifford N. Geary. N.Y. Whittlesey House. 1954. $2.50.

This is a lucid and extremely clear book for those who are learning to drive automobiles and for those who are teaching others to do so. It will serve a useful purpose in classes in driver education. Mrs. Hyde explains in non-technical language each operation of driving in terms of the car and its possibilities. She shows how an engine responds to a driver, how an engine should be cared for, what it will do, and what it cannot be expected to do. Especial attention is given to the causes of accidents, rules of the road, and the dangers due to mixing alcohol and driving. Throughout the stress is on safe driving. The illustrations, drawn by Clifford Geary, are especially apt.—PAUL ZANKOWICH.

Measurement and Evaluation for the Elementary School Teacher. By Theodore L. Torgeson and Georgia Sachs Adams. N.Y. The Dryden Press. 1954. $4.90.

Elementary school teachers and supervisors will be grateful to the authors of this book because it is so eminently practical, simple, and complete. Not only does it identify specifics but it presents corrective procedures that are described in language that all can understand. The central theme of the book is the need of basing classroom procedures on a sound understanding of child growth and development. Intelligence, health, personal-social adjustment, and achievement in many curriculum areas are specifically treated and their interrelationships pointed out. Throughout measurement and evaluation are considered in the light of the broad objectives of modern elementary education. When evaluative techniques are presented, there are step-by-step directions provided so that any teacher can put such techniques into operation. The use of tests, both informal and standardized, is very realistically discussed and statistical concepts and procedures are kept to a minimum. This is truly a practical approach to measurement and evaluation for the regular classroom teacher.—PAUL ZANKOWICH.

Changing Traditions *in* Physical Education

By WARREN R. JOHNSON
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SOMETHING of the same difficulties involved in analyzing broad cultural changes are involved in attempting to determine changes in professional traditions. A detached perspective is essential, for of the many possible threads, the very ones which lie most centrally in the tradition — that most nearly typify the total tendency — must be located. There is the complication that past traditions tend to linger on indefinitely in the moving present; and present traditions have anticedents deeply rooted in the past. That which is "new" may actually represent a further development of the "old", or it may be derived from an alien strain which gradually displaces the old. The present discussion is an attempt to sort out what appear to this writer to be the various major tendencies in modern physical education, and to consider their apparent vitality in terms of likely future developments.

Physical Education, Education, and Fitness.

Physical education, in one guise or another, is a very old instructional subject. The circumstances of men have changed very slowly over the centuries — a fact which Toynbee has illustrated by pointing out that Darius, the Persian, rode a horse for fast transportation, and nearly 2000 years later so did George Washington — and it may probably be said that historically the educational functions of physical education have remained fairly constant until modern times. For the most part physical education seems to have been oriented towards fitness, especially for combat.

It is true that there have been sporadic tributes to the essential unity of mind and body in the educative process; and a Pericles or like-minded person could say:

> For we are lovers of the beautiful,
> yet simple in our tastes,
> and we cultivate the mind
> without loss of manliness.

But the disdain of the academic mind for educating the physical has been strong and continues so in the present day. This situation has placed physical education in the curious position of being a part of the training of youth but not really a part of "education", in the formal sense, at all. Pressure for this state of juxtaposition has tended to come from two sources: (1) the pupils themselves, whose nature seems to demand a certain amount of action for their bodies if their minds are to be susceptible to and efficient in academic learning, and (2) from those interested in molding the minds and bodies of the young, usually for nationalistic reasons and the endurance of hardships.

The Spartans were familiar with the propensities of their brand of physical

education for toughening the mind as well as the body. So was Plato. And so, too, was Adolph Hitler.

In Hitler's Germany, it is possible that the old tradition of physical education achieved its fullest development. Hitler stressed physical education as the primary task of education and considered it "the highest service of the German to his native land."[1] In 1935, he said, "We take pleasure today at the sight of our youth, toughened to endure any type of climate."[2] And later, "the youth organizations complete school work by hardening the character through an exacting self-discipline and physical training,"[3] Note the expression "hardening the character." Paralleling and giving obvious social meaning to the physical developmental values of physical education, there was its talent for forming an attitude that properly harnesses the toughened body and happy mind to the political and military leadership. Gymnastics, sports competitions, mountain climbing, folk dancing — all dealt pointedly with the individual's dedication and service to his nation. Each was an important element in a general stimulus-response conditioning process.

The militaristic and nationalistic traditions of physical education go hand in hand, and they may easily become major factors in the training — if not the education — of future American youth.

Free Play.

In the old tradition, "free play" has been at the opposite pole from a militant and tightly organized and controlled program of physical education. If militant physical education is physical activity harnessed to the state, free play is physical activity harnessed to nothing. Its function in school has been to release pent up energies which cause rebellion against excessive classroom application. Actually, free play bears the relationship to physical education that release therapy bears to art, or that walking through a woods bears to training in botony. Still, it may inherit the earth as far as physical education is concerned, because it is an educational aid which requires no close supervision or expensive specialist, and entails only a minimum of facilities and equipment. Moreover, it has the advantage that is "permissive"; i.e., it throws pupils upon their own resources, and would thus misleadingly seem to be in accord with that thinking which decries teacher domination of learning situations.

Public Entertainment.

The popularity of the major spectator sports would seem to indicate that they reflect an important aspect of our present-day psychology. They are not only colorful and big but also they are intensively and ruthlessly competitive, and for the most part violent. Their results are translatable into readily understood symbols, scores, which like money in the business world, are the standards of success or failure (or perhaps, goodness or badness) of the effort. Their function is to entertain, to stimulate, and perhaps to provide therapeutic expression, vicarious ascendance, and a safe outlet for restrained hostilities and aggressions.

The popularity of varsity type compe-

1 George F. Kneller, *The Educational Philosophy of National Socialism.* New Haven: The Yale University Press, 1941, p. 155.
2 *Ibid.*, p. 155-156.
3 *Ibid.*, p. 155-156.

tition has driven it downwards through the grades and outwards into out-of-school leagues. We are not sure whether its expansion downwards has been due mainly to its appeal to youngsters or to the zeal of its adult promotors; nor are we sure whether, even at its best, it is appropriate, physiologically or psychologically, to the children involved. It serves where demand — if not need — is greatest.

In some communities, the schools are facing up to the issue of whether their athletic programs are in the entertainment business or are concerned with the business of education. Perhaps more generally, this distinction has simply never been recognized.

The New Physical Education.[4]

In recent years, there has been a growing tendency among leaders in physical education to take the position that physical education is not an adjunct to education. On the contrary, they insist that it should be regarded as being well within the educative process. They point out that sports and other activities provide a setting for learnings that include but go far beyond physical skills. They demonstrate that physical education need not be a technique for placing young minds in a straightjacket.

Very briefly stated, the outcomes sought by The New Physical Education fall within the following general categories.

1. Increased physical vigor, strength, and stamina. This outcome is sought primarily for active and effective living in peacetime, but when need be it can also be applied to the necessities of warfare.

2. A knowledge of the principles involved in achieving item (1). It is not enough to be physically fit as a pupil; know-how as to how to maintain such fitness throughout life is also an essential feature.

3. Personality Development and Character Building. Participation in the various physical education activities under excellent leadership provides innumerable opportunities for acquiring the skills of interpersonal relationships and those qualities of character such as personal discipline and responsibility, ingenuity, courage, perseverance, and cooperative spirit, which we are prone to prize in competent citizenship.

4. Sports Knowledge and Appreciation. Sports are an established part of our American culture. Physical education sets itself the task of qualifying young people to gain the satisfactions of sports and other activities both as participant and as spectator during leisure hours. There is a growing tendency to project such learnings into family situations.

The New Physical Education places great store by methodology. The circumstances of the gymnasium and play field classes are well suited to a methodology which stresses group planning and evaluation. Play activities are regarded as being at once natural and fraught

4 The following are illustrations of books which deal with the spirit of The New Physical Education.

Granville B. Johnson, *The New Physical Education*, Minneapolis, Minn.: Burgess Publishing Co., 1942.

Jesse F. Williams, *The Principles of Physical Education*, Philadelphia: W. B. Saunders Co., 1948.

Charles H. McCloy, *Philosophical Bases for Physical Education*, N. Y.: F. S. Crofts & Co., 1940.

Jay B. Nash, *Physical Education: Interpretations and Objectives*, N. Y.: A. S. Barnes and Co., 1948.

with problem solving situations which are appropriate to the mental maturity of the young, life to the child being in terms of play and physical action. Qualified teachers use these situations as means to help children to form the habit of thinking their way through their experiences. At the upper grades, The New Physical Education urges its teachers to regard themselves as educators, as guides and consultants rather than as coaching masterminds who specify every play and movement after the manner of animal trainers.

The New Physical Education is scientifically oriented. With appropriate procedures, some borrowed from other fields and others developed for those specific applications, men and women of this field have set about the task of testing and perhaps validating their basic contentions. They are determined to discover with the greatest possible confidence, just what effects sports and other physical education activities have upon the bodies and minds of participants of all ages. Beneficial effects of exercise upon the body are now established in many particulars. Psychometric techniques are revealing something of the effects of sports competition and observation upon the mind. Various studies indicate that properly supervised game situations improve the dynamics of groups and tend to draw rejected individuals into their group as active members.

Looking Forward.

I am doubtful that the thinking exemplified in The New Physical Education will become the established tradition of the future. The American culture that has produced it also produced a rather universal distaste for physical exertion, and with this an affection for passive entertainment, for expressing itself vicariously, for the sensational, and the viciously competitive. The academic tradition is not enthusiastic about taking "play" seriously as education; physical education continues to exist on the periphery of an education which has little appreciation for the physical or concomitant learnings of properly supervised physical activity. And physical educators are not generally very effective in convincing them that they should.

One can argue that there is a demonstrable and common sense validity in a program which is easily seen to be concerned with *all* pupils, which encourages the growth and fitness of their bodies, exacts personal discipline of them, contributes to their pleasure and skill in interpersonal relationships, has a humanizing effect in that it brings together different types of people in vigorous and friendly interaction, and equips them with knowhow for the worthwhile use of their leisure time. However, if I were to make a prediction at this time, I would be inclined to say that other forms of physical education have a greater chance to dominate the scene of tomorrow.

First, there is the military tradition. From day to day a national emergency is quite capable of diverting virtually all physical education efforts along lines of fitness for war. As pressure increases and fear for survival drives us to extreme measures, physical education in America may well move into the pattern of the Nazis: another tool for regimenting the minds of the young. Of course, it may be that actual war will not be necessary to accomplish this turn of events; continual fear of war and progressive moral dependence are quite capable of doing it.

My alternate prediction presupposes a continuation of approximately the present national circumstances. In this event, it is not unlikely that free play will dominate the picture in the lower school grades and among those older pupils who are not gifted physically; and in the upper grades varsity-type athletic leagues will perform the two-fold function of providing organized play for those mesomorphic individuals who are most insistent upon it and of furnishing entertainment which is important to the internicine spirit of schools and neighborhoods. Such an outcome, for which there is already ample precedent, will continue to be justified on the basis of school spirit and therapeutic, vicarious "expression", and so on. However, it is difficult to see how it can be justified on the basis of its educational elements.

BOOK REVIEWS

The Oxford Dictionary of Quotations. Second Edition. N.Y. Oxford University Press. 1954. $8.50.

Since its puplication in 1941, *The Oxford Dictionary of Quotations* has served magnificently in school and college libraries. In this new edition some 40,000 quotations are identified, and this is nearly 1500 more than appeared in the first edition. The dictionary is an extremely simple one to use and there are full cross references that will help students tract down quotations. A must for all libraries — general, special, school, and college.—WILLIAM P. SEARS.

The Book of Arts and Crafts. By Marguerite Ickis and Reba Selden Esh. N.Y. Association Press. 1954. $4.95.

Here is a book for handicrafters of all ages. Some thousand-odd projects of a useful and attractive nature are presented and the task of explaining how to make them is adequately carried out in the text and in the drawings. The book should find a place in community centers, craft clubs, recreational centers, and in summer camps.—WILLIAM P. SEARS.

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Improving Physical Education Through Supervision[1]

By JAMES H. HUMPHREY
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DURING the latter part of the last century certain of the so-called "special" subjects were introduced into the school curriculum. Inasmuch as school officials at that time were not adequately prepared to render the special services required of these new additions to the curriculum, there arose a need for some sort of supervision in the various special-subject areas. In that physical education from its very inception as a part of the school program has been considered a special subject, the supervision of physical education finds its roots in this particular period of our educational history.

Kansas City was one of the first city school systems to employ a person to train personnel in service when it procured the services of Carl Betz as Director of Physical Training in 1885. Betz set up a system whereby he instructed the school principals on Saturdays and they, in turn, trained their teachers on the following Mondays. Consequently, the beginning of supervision in physical education had as its function the actual training of teachers on the job. The plan was accepted almost immediately and in less than a decade numerous other cities followed the example of Kansas City by employing a specialist as Director of Physical Training.

With supervision in physical education getting its start in this way, the original concept of supervision was that its function was one of giving training to the regular teacher. Eventually, the specialists in the field devoted less time to the training of teachers and more time to observing and rating the work of the teacher. When this practice became more widespread the original concept developed into a type of supervision which was based primarily on inspection. As a result, in some instances a feeling of antipathy grew up between teachers and supervisors. Consequently, the problem of human relations became a vital issue.

Some modern physical educators have felt that certain changes in terminology might help to remedy this situation. However, it is sometimes difficult to dispel confusion through a redefinition of old terms. In the final analysis, the meaning that an individual attaches to the term "supervision" is likely to be predicted upon his concept of the subject. At the present time there seems to be a multiplicity of prevailing concepts of supervision in the field of physical education. Some of these concepts are in agreement with current advanced thinking and research in the field, while others, undoubtedly, are of an antiquat-

1 The material for this article has been developed largely from the introductory chapter of *Principles and Techniques of Supervision in Physical Education* by Leslie W. Irwin and James H. Humphrey, The C. V. Mosby Company, St. Louis, Missouri, 1954. (By permission of the publishers)

ed variety and not compatible with the objectives of physical education.

If supervision in physical education is to be effective in the public schools today it must be viewed as a cooperative enterprise in which teachers and supervisors work together. In the light of past experiences this appears to be the only concept which will obtain desired results.

The Present Scope and Need for Supervision in Physical Education

Supervision in the field of physical education encompasses a greater area and presents more different types of problems than most other phases of the school curriculum. Numerous factors closely related to the actual activity program contribute materially to this situation. Such factors as facilities, equipment, and supplies, along with the diverse and manifold types of previous pupil experiences in physical activities, make for a complexity of problems with regard to the supervisory aspects of the program. This implies that those persons responsible for the supervision of physical education are confronted with a multitude of tasks related to but not actually a part of the instructional phases of the program. In addition, such functions as those which pertain to curriculum construction, special services and activities, community responsibilities, professional growth, along with numerous others involve an almost infinite scope with regard to present-day supervision in physical education.

In the field of physical education there are numerous factors in addition to teacher personnel which exert a decided influence upon the physical education curriculum. Some of these include facilities, grade placement of activities, time allotment, class size, and climatic conditions. If satisfactory benefits are to be derived from public school physical education programs it is of paramount importance that these factors receive very careful consideration. Existing conditions in many of the public schools of America make it obligatory to adhere wholeheartedly to this consideration.

Another condition that clearly indicates the need for improved supervision is the increased enrollment in the public schools which is currently at its highest peak in history. Numerous problems have developed with increased enrollment. The problem of acute shortage of competent teachers is perennially with us. Coupled with this fact is the estimate that one out of every eight children in the public schools is deprived of adequate education because of insufficient facilities.

The influx of great numbers of pupils with varying backgrounds of experience places a rigorous strain on the ingenuity of teachers at all grade levels. The task of providing adequate physical education programs for all children and youth in the schools should not be the burden of teachers alone. Wise leadership must be provided on a co-operative basis in order to improve the teacher-pupil learning situation in physical education. Supervision, if based on the concept presented here, is an indispensable necessity if physical education is to contribute materially to the optimum growth and development of children and youth.

Some Principles of Supervision in Physical Education

If the physical education learning situation is to be improved through supervision, then supervisory procedures should be based on certain fundamental principles. When supervision is viewed

as a specific phase of the total educational plan, attempts to state a philosophy of supervision necessitate a reconsideration of the broader field of the philosophy of education. Consequently, a philosophy of supervision should be based on and compatible with general educational philosophy which is concerned with the knowledge and application of sound educational principles. Inasmuch as physical education is an integral part of the entire educational procedure, the basic principles of supervision in physical education will be mutually dependent upon the principles of education as a guide. The following list of principles should be considered fundamental to the formulation of a supervisory program in physical education:

1. SUPERVISION IS A PUPIL-CENTERED FUNCTION. Because the development of the pupil is the paramount factor in modern education, all efforts in the supervisory program should be directed to this end. In this connection it is highly desirable that physical education personnel be placed in the program on the basis of individual ability. In this way all concerned will be in a strategic position to make an optimum contribution to the pupil. Consequently, it is imperative that supervisors have a complete understanding of the training, experience, and special aptitudes of all the members of the department.

2. SUPERVISION IS AS EFFECTIVE AS ITS BASIC ORGANIZATION. This implies that certain parts of the program will be dependent upon each other, but that the entire program must function as a whole. Each person concerned with the physical education program must be made aware of his particular function and place as a component part in the total organization. This necessitates a full understanding of all personnel with regard to the interrelation of the various phases of the program.

3. SUPERVISION SHOULD BE PLANNED ON THE BASIS OF VALID OBJECTIVES OF PHYSICAL EDUCATION. One of the most important problems of supervisors of physical education today is concerned with assisting teachers in the attainment of objectives. This is particularly true at the elementary school level where many teachers have a limited background of training in physical education. Since the objectives of physical education are concerned with the optimum growth and development of the pupil, wise planning in supervision must be directed toward this end.

4. SUPERVISION MUST GIVE UTMOST CONSIDERATION TO HUMAN RELATIONS. While supervision can use all branches of education, it is predominantly a matter of human relationships. The contact between teacher and supervisor should be one in which mutual ideas are exchanged for the ultimate improvement of the program. Hence, the arrival of the supervisor should not be an occasion when the teacher senses a feeling of inferiority. It should be something to be looked forward to in anticipation of giving better service to pupils. This condition will prevail only if supervisors of physical education possess desirable personal qualities conducive to good human relationships. Furthermore, the supervisor should have the utmost respect for the various types of personalities of those persons with whom he is associated.

5. SUPERVISION SHOULD BE FOUNDED ON A BASIS OF COOPERATIVE LEADERSHIP. The best physical education programs will be de-

veloped where teachers and supervisors work and plan together. This is of particular importance in the curriculum construction phase of physical education. The supervisor who takes this responsibility totally upon himself minimizes teacher initiative and reduces the teacher's efforts to a mechanistic status. When this situation prevails, the opportunity to capitalize upon cooperative group thinking is lost, thus violating the democratic basis upon which modern education is founded.

6. SUPERVISION SHOULD ALLOW FOR FLEXIBILITY IN THE EMPLOYMENT OF TECHNIQUES. The nature of physical education is such that it would be next to impossible to conform to a hard and fast pattern with respect to the application of techniques. Standardization in the use of certain supervisory techniques is likely to militate against individual differences of teachers and reduce the physical education program to a point of stagnation. For this reason such techniques as visitation, conferences, demonstration teaching, bulletins, and the like, should be employed in varying degrees and in situations where they are most adaptable.

7. THE SUPERVISOR OF PHYSICAL EDUCATION SHOULD MAKE OPTIMUM USE OF ALL AVAILABLE FACILITIES. One of the most important factors in the success of a physical education activity program is adequate facilities. However, this does not mean that successful programs cannot be carried on in situations where there are limited facilities. The fact that some excellent programs are in progress in schools with inadequate facilities testifies to the ingenuity and competency of some teachers and supervisors of physical education. On the other hand, mediocre programs in schools with excellent facilities might imply inadequacy in supervision. The supervisor must be ever on the alert to take advantage of facilities that are at all conducive to the physical education program.

8. SUPERVISION SHOULD OPERATE SO FAR AS POSSIBLE ON THE BASIS OF SCIENTIFIC EVIDENCE. Supervisors of physical education need to keep abreast with recent research in the field. Improved ideas and methods may be channeled to teachers and employed as seem necessary in specific situations. Although research is highly important in the field of physical education we cannot always wait for objective evidence in carrying out a successful program. For example, there is little scientific evidence to support the specific placement of activities in the physical education curriculum. Therefore, it is usually necessary to resort to experience and to knowledge of certain physiological, psychological and sociological principles in the graduation of the physical education activity program.

While it is highly desirable that the program be based on scientific evidence, in the absence of such evidence supervisors must resort to their best judgment along with cooperative thinking on the part of teachers if the best programs are to be established.

9. EVALUATION IS FUNDAMENTAL TO EFFECTIVE SUPERVISORY PROCEDURE. An examination of current supervisory practices is essential in order to determine whether or not these practices should be perpetuated, modified, or eliminated in the best interest of the physical education program. Consequently, continuous evaluation should be considered as an indispensable concomitant of present supervision programs.

State Leadership *and the* Improvement *of the* Physical Education Program

By JACK F. GEORGE

State Director Physical Education, Concord, New Hampshire

JUST how does the state director of physical education affect the improvement of local physical education programs? If progress is to be made, state directors of any special area of education must be primarily concerned with the growth and development of the community program.

Some administrators at the state level have adequate staff to inform them of local conditions and how best to improve them. However, it seems to be the general rule that most state departments of education are greatly understaffed. As a result, it becomes a paramount task of the state director to so budget his time, choose his professional affiliations and clearly identify present and future projects in order to meet his major obligation—that of improving present programs and stimulating communities to initiate new ones.

As in many types of leadership positions, he has frequent opportunities to "spread himself too thin." As his talents become known, he is constantly besieged to serve on numberless committees, appear for speaking engagements, "entertain" in a recreational way and in general participate in many activities which have questionable impact on the local physical education program. If he is fortunate enough to have an assistant, this responsibility may be partially delegated. However, even these talents might be better used. Of course, much of this activity might be excused as "public relations." This phase of his duties is important, but can become easily over-emphasized in the total program of state leadership.

The author has adopted a criterion which he constantly uses. Toward the end of each month, he reviews his thirty days' activities and makes an effort to judge them by use of the following question—"Were my activities this month *incident centered or policy concerned?*" Many times, it is a real shock to discover that a number of the activities of the last four weeks might have been eliminated from the standpoint of direct or even indirect improvement of the local program. The "incidents" are not closely enough related to the purpose of the job to indicate a trend or "policy." However, many contacts made in these seemingly unrelated chores prove beneficial in the future. It would seem that a constant awareness of this danger should assist the state director in improving the choice of his commitments for the future and thereby better concentrate his efforts toward the improvement of the local programs for boys and girls.

In order to better understand the function of state supervision, we might compare the relationship between state departments of education twenty years ago and today. An issue of School Life states,[1] "Within the past two decades significant extensions of and changes in state department of education services have occurred. The early functions performed by these departments were primarily reportorial, hortative and ministerial in character; but the recent

1 *School Life*, official journal of the United States Office of Education, vol. 30, no. 6, March 1948, p. 13—Trends in State Department of Education Services, Nolan D. Pullman.

trends have been toward provision of a broad range of supervisory and consultative services to meet the recognized needs of public education." The American Superintendency also relates,[2] "While regulatory and operational functions are important, the key to the effectiveness of the state department of education lies in *creative leadership*. Leadership strives continuously to raise the educational program to the highest plane possible. Good leadership fosters improvement through the development of local initiative and experimentation. It is through leadership that excellence in education is obtained."

This is indeed a healthy and sound change in state department philosophy and mode of operation. These leadership functions of the state department of education might be listed as follows:

1. Long range planning and professional leadership for all phases of state education. The state program cannot rise beyond the vision of its leaders as expressed in their plans. Increasingly, state departments are becoming strong planning agencies.

2. Provision of highly competent, consultative and advisory service to the legislature, the governor, staffs of school systems, educational associations and to the public in general on all aspect of the state educational program. Because of staff limitations, the physical educational director as well as specialists in the other areas of education find it necessary to serve as consultants in fields other than their own.

3. Leadership in research and cooperation in the research activities of other groups and agencies. The key position of the state department of education in research is making it possible to expand this function rapidly in all service areas.

4. Coordination of the educational programs of the state in an effort to promote good policies and procedures and to eliminate inefficiency, duplication and waste.

5. Maintenance of vigorous public relations for the total educational program. This procedure requires two open channels of information for effective operation. Through one channel the public is kept well informed concerning the state educational program. Through the other channel the department benefits from the flow of opinions and suggestions coming from the public.

It is apparent that there has been a positive change in operation of state departments of education and the fulfillment of their objectives.

In relation to physical education, how does this new policy affect the job of the state director and his services to the local community? These services of the state physical education department may be generally placed in the following categories:

1. Evaluate and assist local school districts in organizing and improving programs of physical education which will meet the needs of *all* elementary and high school students. This should consume a large portion of the director's time. It involves visitations to schools, conferences with school administrators, school boards and teachers. It is only through this direct contact with the problems in the field that he can understand and be able to assist in building better programs.

2. Assist in the planning and development of new facilities and the remodeling of existing facilities for use in the physical education programs, including recommendations and specifications for community use of plants. Good pro-

2 *The American School Superintendency*, Thirtieth Yearbook, American Association of School Administrators, Feb. 1952.

grams require good facilities. Therefore, it is logical that the director become acquainted with the school architects that are concerned with the building of schools in his state. He should make an effort to be present at preliminary meetings for new facilities. He has functional information gained from years of experience in the field which will be of benefit to the architect. In most cases, his advice is respected. However, many plants are being built today without the consulting services of the physical education specialist. This often results in many unnecessary errors which later handicap supervision and administration of the program.

3. Prepare program materials such as: state courses of study, handbooks and guides. The preparation of these materials is included in the legal responsiblity of the State Superintendent of Instruction. This work is conducted through various curriculum groups. It is the responsibility of the director to coordinate and culminate these projects.

4. Assist with in-service training of teachers through participation in preschool conferences, workshops, clinics and in various regional school meetings. He also cooperates with institutions of higher learning in the pre-service training of teachers. This work is conducted with directors of elementary and secondary education, superintendents, local administrators, physical education teachers and heads of various college departments.

5. Planning and coordinating services with other agencies and organizations such as the State Board of Health, State Recreation Departments, State Fish and Game Departments and local medical authorities, volunteer health agencies, dental associations, parent groups and others related to the administration of the physical education program. This phase of the work includes membership on various inter-agency joint committees and regional meetings of professional groups.

6. Interpretation of the program is an ever present challenge. The "need" and the "why" of physical education is always among the first questions asked in local meetings and consultations. Lay groups should be oriented as well as educational colleagues in attempting this portion of the program.

7. Up-grading all areas of physical education by:

   a. Establishing standards for personel and program.
   b. Assisting in the encouragement of and writing of appropriate legislation.
   c. Familiarization with recent developments in the field.

8. Athletics are a part of his administration. The director should be in close touch with all athletic groups in the state. He should be a member or consultant of the state scholastic athletic association. Anything that involves the athletic participation of schools is his concern. His guidance and leadership in this important phase of the physical education program should be recognized.

Every good director of physical education is constantly planning. He should have definite procedures for the current year. There should be a three year plan which can be changed and adapted. Priorities as to needs and problems will exist and they must be recognized. He should be ready to answer the state superintendent's question, "What are the three most important things you want or would like to do this year?" Plan the work and work the plan! The functioning of a successful and worthwhile program of services and activities is the objective. THE PROGRAM IS THE JOB!

Paper *and* Pencil Tests *in* Physical Education

By LLOYD R. BURLEY

Associate Professor, University New Mexico

SOME time ago upon questioning a teacher concerning the prevalence of the use of written examinations in physical education, I received this reply, "We used to give written examinations but our students did so poorly that we quit."

Perhaps this is a legitimate excuse for not using paper and pencil tests. But the question kept rising in my mind, "Did the staff do such a poor job of teaching that the students did not know the answers to the questions or were the tests so poorly prepared that the desired answers were not forthcoming?"

It might be well to ask, "Why give tests?" The best reason for giving tests is to enable the teacher to better aid the pupil. It seems ridiculous to try to teach students things they already know. It is likewise foolish to attempt to teach students material beyond their comprehension. How better can the teacher determine the knowledge of the student than by testing.

A second use of tests is for determining what the student has learned. A third use is for motivating learning. Scott and French state, "Studies have been made to measure the effect of the written examination on learning, the retention of learning, and the effect of frequent quizzes on stimulation of achievement. Results of the studies suggest the advisability of wider use of written tests in physical education."

Paper and pencil tests are useful in research. Much needs to be done in investigating the relationship between various types of knowledge and the rapidity of progress in performance.

Paper and pencil tests in physical education are usually used to test the students knowledge of rules of games, tactical situations, sport skill analysis, etc. If we could find the time we would, I believe, profit by more emphasis upon the knowledges which underly the appreciation of physical activities at which the student will be a spectator. Girls can learn to appreciate a good block or a tackle and boys to appreciate forms of dancing in which they may not engage. Lessons in appreciation are as much needed in physical education as in music or other arts and these can be tested by paper and pencil tests.

Knowledge tests have been used by some departments of physical education for homogeneous sectioning of incoming students for orientation or for proper placement in the activities program. To date the correlation between performance in paper and pencil tests and physical skill tests is so low that it is not possible to predict performances in skill from scores on written tests.

But why do students frequently make poor scores on written tests in physical education? Our classes are largely activity periods and sometimes our presentation of information is faulty. In order to insure adequate teaching of

important items some specific plan is needed. Scott and French describe a worksheet method in their book "Evaluation in Physical Education." When possible it is well to mimeograph the material to be covered and present a copy to each pupil. Or the teacher may post a copy of the material to be taught on the bulletin board. During or after each class the teacher checks on this copy the items actually presented that day. This aids the teacher in covering the material, permits absent pupils to check what they have missed, and enables the pupil who has less background in an activity to re-study points which are grasped quickly by more experienced participants.

Sometimes when people do badly we find that our tests are partly to blame. There are few standardized knowledge tests in our field so we are obliged to develop our own. There are several types of objective tests we may use. You are all familiar with the forms — true-false or alternate response, multiple choice, tabular, matching, completion or recall, essay, and diagrams.

According to Scott and French test builders seem to favor the multiple choice over other forms for the following reasons:

1. It can be adapted to test for any depth of learning.
2. It can be made completely objective in scoring and adapts easily to answer sheets.
3. It makes possible the detection of non-functional material in the response thus facilitationg revision of questions . . .
4. It tests the student's ability to eliminate incorrect responses as well as to select the correct ones directly.
5. It does not require correction for guessing.

The scoring of objective tests by machine saves time and energy. The use of scoring key is advantageous whether manual or machine operated — make one for scoring your objective tests whenever possible.

In constructing objective tests the evaluation of the items is important. Ask yourself the following questions:

1. Is the item measured important?
2. Is the item stated clearly?
3. Are authorities in agreement on the response?
4. Is the item so stated as to eliminate clues?

In a survey of teacher-made examinations, more grammatical clues were found in those questions employing an incomplete stem than in any other type.

5. Do the test items progress from the easy to the difficult?
6. Is the spread of difficulty of the items adapted to the spread of the ability of the group?
7. Is the typographical form of the test economical?
8. Are the directions to the students simple and direct?
9. Are the time limits for the test adequate?
10. Does the test permit economical and accurate scoring?

After doing your best to meet these requirements have some other person read your test critically.

The validity of a test should be determined by reasoning and statistics. The following questions might aid in achieving validity:

1. Have important items been neglected in the test?
2. Is the emphasis on functional value?
3. Does the test discriminate between poor and good students?

Meeting these requirements of a good test is difficult. Nevertheless the subjective worth of a test may be determined by asking the following questions after the test has been checked and returned to the students:

1. Did the test provide a wide range of scores?
2. Did the rank of scores coincide with a previous group?
3. Did the test emphasize all of the important phases of instruction in the proper proportion?
4. Was the test the proper length?
5. Were any ambiguities revealed when discussing the papers?
6. Did the test reveal areas needing no further instruction; or areas where there was inadequate understanding of certain phases of the subject matter?

Statistical testing of items to determine their difficulty ratings and indices of discrimination is the best method of determining which items should be retained; but just such critical examination as has been suggested will aid in developing good tests.

The written test is one of the most useful evaluative processes at our disposal for achieving economy of time and effort and for increasing the efficiency of teaching the mental content of our courses in physical education.

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